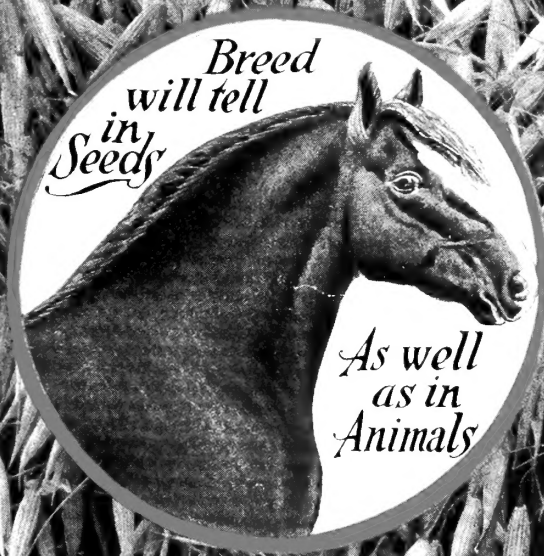


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Henderson's Farmers Manual

1918

PETER HENDERSON & CO.

35 and 37 CORTLANDT STREET, NEW YORK

HENDERSON'S TESTED FARM SEEDS

HENDERSON'S TRUE-TO-TYPE FARM SEEDS MAKE FARMING PROFITABLE

Since the part of our Manual of Everything for the Garden devoted to Farm Seeds went to press, early in November, 1917, prices of many varieties have advanced, especially Red Clover and Field, Fodder and Ensilage Corn. The rise in the prices of Clovers is due to the short crop in this country, coupled with the export demand from Europe. We recommend therefore a much larger use of Alsike Clover, as much better crops of this have been harvested and it is less expensive. The advance in corn prices is owing to the great difficulty experienced in getting seed showing good germination. This is because of the serious damage sustained by the crops from an early frost last fall.

We, however, have secured stocks which, though limited in quantity, are excellent in quality, tests showing good germination.

In farming, as in gardening, it is essential to remember that the cost of the seed is the least item of expense; manure and labor forming the chief outlay. It is false economy therefore, to risk the crop with dubious seeds because they are cheaper than reliable, tested seeds.

The farmer who buys the cheapest seeds on the market, usually at the local hardware or general store, where seed selling is only incidental to the main business, is partly responsible for the fact that the American farmer is not obtaining the yield per acre that he should. And this, notwithstanding the far greater efficiency of American agricultural machinery.

The seeds so purchased are in reality the most expensive seeds he can buy, for there is an enormous waste of both time and money in planting unselected, impure clover and grass seeds. As the chief Botanist of a State Experiment Station recently remarked, "How many thousands of dollars are annually lost through land sown to foul weeds which has to be plowed up, thrown into shape and re-seeded, it seems impossible to estimate."

AN OBJECT LESSON

The cost of growing an acre of Oats yielding 30 bushels per acre (the average yield) is exactly the same as the cost of growing an acre of **HENDERSON'S CLYDESDALE OATS** yielding 80 or 85 bushels to the acre. We picture on this page the product of one acre—a stack of 86 bushels grown by a customer whose testimonial we insert also a 3 bushel bag he used for seeding one acre—thus gaining almost a thirty-fold increase.

Farmers should make a profit like other business men, but they cannot place the balance on the right side, except by using the best seeds.

Our stocks are drawn from the harvest of 1917. They are grown from pedigree strains re-selected each year, thoroughly re-cleaned by the most improved seed-cleaning machinery in America, and we therefore invite you to favor us with your orders for the season's supply.

HENDERSON'S
CLYDESDALE
OATS



A three bushel bag sown on 1 acre produced the stack of oats on the right.

"I purchased from you 15 bushels of Clydesdale Oats which I sowed on a plot nearly five acres in extent, and got 430 bushels of beautiful oats." **CYRUS REIMER,**
Cleveland, Ohio.

BUSINESS RULES

PRICES OF ALL FARM SEED ARE SUBJECT TO CHANGE WITHOUT NOTICE

PETER HENDERSON & Co. give no warranty, express or implied, as to description, quality, productiveness, or any other matter of any Seeds they send out and they will not be in any way responsible for the crop. If the purchaser does not accept the goods on these terms, they are at once to be returned.

ACCOUNTS.—Parties having no account, with us—who order goods without remittance—must furnish satisfactory reference. New York City reference preferred on account of the shorter delay pending investigation.

ABOUT FORWARDING AND REMITTING.—Remittances should be made either in the form of a *P. O. Money Order, Express Money Order, Bank Draft, Express Purchasing Order or Registered Letter.*

WHEN SHIPPED BY FREIGHT WE DELIVER POTATOES in good condition, into the hands of transportation companies; our responsibility ceases there. Consignee then assumes all risks of heating, freezing and delays.

We make no charge for packing or cartage of goods to any railroad station, steamship line or express office in New York City. Farm seeds we do not deliver free—consignee pays the transportation charges. In the event of small quantities being wanted by mail, add postage according to Zone rates in next column.

CLOTH BAGS only we charge for, and these at cost, viz: 1 peck, 15c.; ½ bushel, 20c.; 1 bushel, 25c.; 2 bushels, 45c., **ALL GRASS SEED BAGS**, excepting bags for Timothy and Clover, are furnished, free.

FARM MANAGERS—We have always on hand applications by competent men for positions as farm and estate managers, men who have been trained in the business and are well posted on agriculture generally, also the raising and care of all kinds of live stock. We will be very pleased to enter into correspondence with those who require the services of such. We make no charge for this to employer or employee.

SPECIAL PACKING FOR FOREIGN SHIPMENTS, in tin-lined cases or double sacks charged at cost.

DOMESTIC PARCEL POST RATES

Within the U. S. and Possessions
1st & 2d Zones weight limit 50 lbs., other Zones 20 lbs.

				First Pound (over 8 oz. rates 1 lb.)	Each Additional Pound or fraction
First	Zone within	50	miles of New York City	5c.	1c.
Second	" "	50 to 150	" " "	5c.	1c.
Third	" "	150 " 300	" " "	6c.	2c.
Fourth	" "	300 " 600	" " "	7c.	4c.
Fifth	" "	600 " 1000	" " "	8c.	6c.
Sixth	" "	1000 " 1400	" " "	9c.	8c.
Seventh	" "	1400 " 1800	" " "	11c.	10c.
Eighth	" all over	1800	" " "	12c.	12c.

PRICES in this catalogue are subject to market fluctuations.

SPECIAL QUOTATIONS given on larger quantities than offered herein.

THIS CATALOGUE CANCELS ALL PREVIOUS QUOTATIONS

PETER HENDERSON & Co.
35 & 37 CORTLANDT STREET
NEW YORK

FOR INDEX AND QUANTITY OF SEED TO SOW PER ACRE, SEE PAGE 3 OF COVER

ORDER SHEET FOR FARM SEEDS

PETER HENDERSON & CO. give no warranty, express or implied, as to description, quality, productiveness, or any other matter of any Seeds, Bulbs, Roots or Plants they send out, and they will not be in any way responsible for the crop. If the purchaser does not accept the goods on these terms, they are at once to be returned.

Peter Henderson & Co.
35 and 37 Cortlandt Street, New York

SEND BY

State if wanted by Parcel Post: Express (and Company); Freight (and Route); Steamer (and Line).
Regarding Parcel Post shipments see page 2 of cover.

To (Name)

P. O. Box, Street
or Rural Del'ry.

Post Office

County.....; State.....

Station or Exp. Office

(Only if different from P. O.)

Superintendent or Farm Manager:

(That we may register for Catalogues.)

Date..... 1918.

AMOUNT ENCLOSED

4

(State whether Cash, Draft, P. O. Order, Express Money Order or Stamps.)

(If goods are wanted by express, C. O. D., 25 per cent. of the amount must accompany the order.)

RECORDED

and entered for following Catalogues:

R and

By

We make no charge for packing or cartage of goods to any railroad station, steamship line or express office in New York City.

Farm seeds we do not deliver free—consignee pays the transportation charges. In the event of small quantities being wanted by mail, postage should be added according to Zone rates printed on page 2 of cover.

CLOTH BAGS only we charge for, and these at cost, viz.: 1 peck, 15c.; $\frac{1}{2}$ bushel, 20c.; 1 bushel 25c.; 2 bushel, 45c.

SPECIAL PACKING for FOREIGN SHIPMENTS. in tin-lined cases or doublebags, charged at cost.

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IN ORDERING, Please Use this "ORDER SHEET."

WE DO NOT OFFER ANY PREMIUMS OR
DISCOUNTS; OUR PRICES ARE NET.

Total amount of order.

(PLEASE DO NOT WRITE IN THIS SPACE.)

Route shipped by _____, Date shipped _____ 1918.

In Pkgs.; Bundles; Boxes; Crates; Baskets; Bbls.; Bags.

The following articles will be sent later _____

Laid out by _____; Checked by _____; Reply required by _____

QUANTITY

ARTICLES

Amount brought forward.

PRICE

HENDERSON'S
SPECIAL



GRASS
MIXTURE FOR HAY



AND
PERMANENT
PASTURE

HENDERSON'S SPECIAL GRASS SEED MIXTURE FOR Hay and Permanent Pasture

It Produces Wonderful Hay Crops and Luxuriant Pasture Maintaining
Its Cropping Qualities Twenty Years or More

This famous mixture has seeded thousands of acres of meadow and pasture land for progressive farmers and stock raisers in various parts of the United States, with most gratifying results. It is a well-balanced combination of a number of native and acclimated foreign Grasses and Clovers, blended and improved upon during exhaustive trials under widely varied conditions, soils and localities for several years, until practically perfect, our aim being to produce, under the extremes of the American climate of heat, drought and cold, a PERMANENT, dense and deep-rooting turf that would yield year after year the maximum quantity of forage. These Grasses are of superior quality, inviting, sweet and nourishing, whether used as hay or pasture. We have received numerous letters of praise for these special Grass mixtures from the users, and tributes to their merits have been published in many of the agricultural journals.

The Initial Cost is More in seeding with Henderson's Special Grass Mixture, but the ultimate returns are much more profitable than those from ordinary hay and pasture fields, and when the other advantages are considered—including the permanency of a maintained yield—the first expense will be found a paying and satisfactory investment.

In preparing these mixtures the greatest care is exercised in selecting such varieties as are suited to the soil to be sown and are likely to realize the object in view. Therefore a description of the soil and climate, and the purpose for which sown, and if with or without a grain crop, should accompany each order. Sow 3 bushels per acre.

Full directions for sowing enclosed in every bag.
Price (purchaser paying carriage). \$2.75 per bu. of 14 lbs.; 50-bu. lots, \$2.65 per bu.; 100-bu. lots, \$2.60 per bu.

REGARDING CLOVERS

Do not omit to sow Clovers with the Grasses, as they add to the yield of hay and pasture, and by their ability to collect atmospheric nitrogen and store it in the root nodules, assist the growth of the Grasses and are of considerable benefit to subsequent crops.

Mixed Permanent Clovers, on account of their greater weight, should be sown separately, but at the same time as the Grasses. This Mixed Clover comprises White, Mammoth Perennial or Cow Grass, Alsike, etc. Sow 10 pounds per acre. Price, 55c. per lb.; 10 lbs., \$5.25; 100 lbs., \$50.00.

"I sowed some of Henderson's Special Grass Seed Mixtures two years ago, and as it did so well, I wish to lay down another piece."

THEODORE B. BAILEY, Wilton, Conn.

"Our twenty year old grass field is a wonder. It was up to the cow's shoulders last year, notwithstanding all the dry weather we had."

JOSEPH F. STRONG, Millstone, N. J.

"Please send me by express immediately nine bushels of Henderson's Special Grass Seed Mixture for permanent pasture. The last lot I got from you did fine."

JOHN M. DENNIS, Lutherville, Md.

"A few years ago I sowed some of your Special Grass Seed Mixture, and it did so well, I want about nine bushels for my clearing."

JAMES W. BURNIS, Delta, Pa.

Henderson's Special Grass Mixture FOR PERMANENT PASTURE

SUPPLIES CONTINUOUS and ABUNDANT PASTURAGE for TWENTY YEARS and MORE
REMAINS GREEN AND SUCCULENT ALL SUMMER LONG,
WHEN ORDINARY GRAZING LANDS ARE BURNED BROWN

"As regards grass seed shipped to me last year I must say it turned out splendidly and is now a good heavy mat of grass. All you say of it is perfectly right. All seeds which I received at any time from you have always been the admiration of everyone for their good crop."

H. M. K. WHITEWAY,
St. Johns, Newfoundland.

"I bought from you and sowed last August your Permanent Grass Mixture and early this spring added to it your Permanent Clover. I cut a very good crop of hay off this field the middle of June. I find now that there must have been quite a little Alfalfa seed in the Permanent Clover as it has already grown up and begun to flower."

SHERLOCK SWANN, Baltimore, Md.

"I have two very fine meadows from your seeds sent me last year for permanent pasture. They are very productive and satisfactory."

W. G. POLLOCK, Cleveland, Ohio.

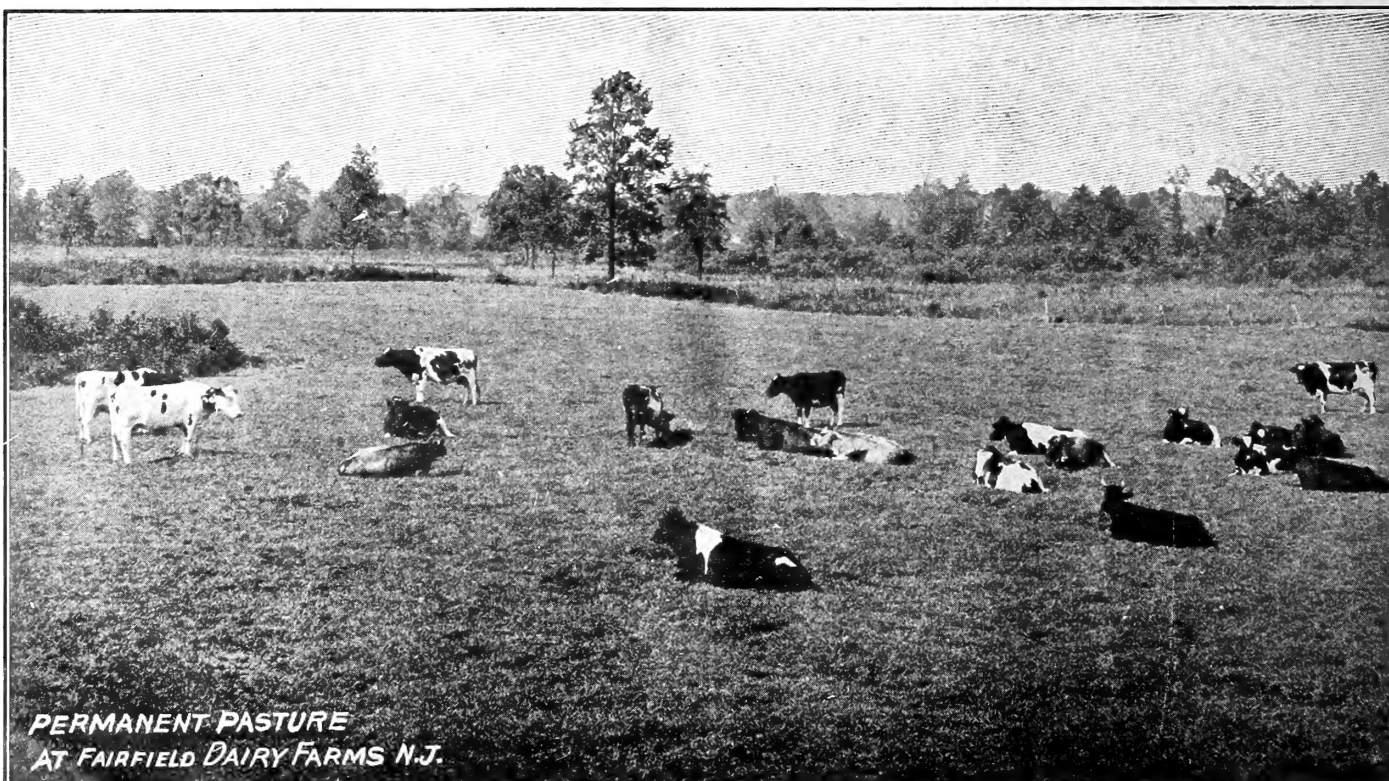
"My Manager is crazy over the Henderson Permanent Pasture Grass Mixture. He says this year he cut three (3) tons per acre the first cutting; 1½ tons the second, and will cut 2 tons the third."

EDWARD E. BARNEY, Homewood, Va.

There is no more important part of a farm than a good pasture, and that can only be obtained by the use of the proper Grasses, varieties that have different root formations and different habits and season of growth, in order to maintain a rich, close turf throughout the entire season. Timothy should never be used for pasture, because it will not stand trampling, and soon runs out when heavily pastured and at best is short-lived, as compared with the permanent Grasses used in our Special Mixtures. These Mixtures contain over a dozen of the best permanent Grasses, both American-grown and imported. All are permanent, and when once established will last indefinitely, if the fertility of the soil is kept up by occasional top-dressing. Owing to the different habits of growth, the Grasses grow closer together and form a rich, close turf, covering the soil completely and forming a protection to the roots during hot, dry weather, thereby enabling these Grasses to maintain a rich green appearance when Timothy and other Grasses are burned up. The thick turf also prevents animals poaching through and destroying the pasture.

We have for years studied the subject of pastures and their formation with exhaustive tests on our own trial farms, where we have had growing separately and in different Mixtures all the Grasses of which seed can be procured in commercial quantities. These trials have been broadly studied and the results watched with critical interest on the farms of our customers. We are in an unrivaled position to advise you on the subject and to supply suitable Grass seeds for Permanent Pasture. While it costs a little more to seed an acre with this Special Mixture, yet results are so superior and permanent that they more than offset the original cost. Sow not less than 3 bushels per acre. Directions enclosed in every bag. **PRICE, \$2.75 per bushel of 14 lbs.; 50 bushels @ \$2.65; 100 bushels @ \$2.60.** (State whether wanted for light, medium or heavy soils.)

Mixed Permanent Clovers, 10 lbs. sufficient to sow an acre. (See page 1.)
Price, 55c. per lb.; \$5.25 per 10 lbs.; \$50.00 per 100 lbs.





HENDERSON'S SPECIAL GRASS MIXTURE FOR

PERMANENT HAY

Supplies a Good Crop of Hay in Dry Seasons When Ordinary Hayfields are Burned Up

Although the most widely cultivated hay grass in the United States is Timothy, or a mixture of Timothy and Clover, and while they answer the purpose admirably on farms where the soil is suitable and where the usual three and four years' rotation is carried on, yet there are many other grasses which will yield more profitable returns.

An acre of HENDERSON'S SPECIAL GRASS MIXTURE FOR PERMANENT HAY will yield double the quantity of an acre of Timothy and Clover, and the farmer whose land is sown with a proper mixture of Permanent Grasses, requiring only an occasional top-dressing of manure or fertilizer to MAINTAIN THEIR HEAVY CROPPING QUALITIES FOR TWENTY YEARS OR MORE, avoids the expense of the yearly plowing and cultivating, necessary in rotation cropping.

Hay yields very profitable annual returns at a minimum of labor and expense. The seed of these Permanent Grasses is more costly than Timothy, and more is required per acre, but by reason of their heavy cropping qualities and permanency they soon repay the extra cost and

leave a handsome margin for the farmer, when the cost of plowing, harrowing and re-seeding Timothy every three and four years is taken into consideration.

The grasses used in this Mixture recover quickly after the hay crop is cut, and yield either a second crop or pasture in the greatest abundance during the summer and fall months. Within a few days after cutting, their rich green appearance as compared with Timothy is a desirable feature, especially in fields close to the house, as it gives a park-lawn effect to the surroundings. Sow 3 bushels per acre. Directions in every bag. Price, \$2.75 per bushel of 14 lbs.; 50 bushels @ \$2.65; 100 bushels @ \$2.60. (State whether wanted for light, medium or heavy soils.) Mixed Permanent Clovers, 10 lbs., sufficient to sow an acre. (See page 1.) Price, 55c. per lb.; \$5.25, 10 lbs.; \$50.00 100 lbs.

"Years ago my father seeded a piece of land with Henderson's Mixture for Permanent Hay, which I remember was ordered from you. The fields are still yielding excellent returns from that seeding, so desire to seed other fields at once."
Miss MARY T. RANDALL, Pittsford, Vermont.

HENDERSON'S RENOVATING MIXTURE FOR IMPROVING OLD PASTURES

Grass lands, in consequence of being constantly mown or pastured without being fertilized or manured, frequently become impoverished and deficient in the more valuable and nutritious grasses, and in time become unprofitable. It is frequently unnecessary to plow up such land unless it be full of weeds. The turf should be well harrowed with a sharp-tooth harrow, and, if possible, top-dressed with soil and well-rotted stable manure, which should be well harrowed in, and then sown with HENDERSON'S RENOVATING MIXTURE, at the rate of one bushel per acre, and five pounds of mixed clovers. This mixture is composed of those sorts that are best suited for sowing on old pastures or meadows, and it will speedily improve the quality and increase the produce. March and April are the best months for sowing, choosing an interval between rains if possible, though, if inconvenient to sow then, very satisfactory results can be obtained by fall sowing. After sowing, the ground should be lightly harrowed and afterward well rolled.

Price, \$2.75 per bushel of 14 lbs.; 50 bushel lots, \$2.65 per bushel.

HENDERSON'S SPECIAL MIXTURE FOR WOODLAND PASTURES

Unless there is a superabundance of nitrogen in the soil and a consequent excessive wood growth, in which case it is desirable to sow the land with grasses, it is now customary to sow orchards with cover crops, such as Cow Peas, Clover, etc. These are plowed under and the orchard kept in constant cultivation. But where it is desired to sow the orchard with grass, or for woodland pastures, even when the shade is comparatively dense, we can with all confidence recommend this mixture.

It is composed of a selection of grasses which from exhaustive experiments we have found will thrive under trees. Orchard Grass is, of course, one of the best grasses for the purpose, but this mixture is much superior, as it will make a closer and more even pasture than Orchard Grass alone.

Price, \$2.75 per bushel of 14 lbs.; 50 bushel lots, \$2.65 per bushel.

Mixed Clovers, 5 lbs. sufficient to renovate an acre. Price, 55c., lb.; \$5.25, 10 lbs.; \$50.00, 100 lbs.

NATIVE AND FOREIGN GRASSES SUITED TO ALL SOILS AND CLIMATIC CONDITIONS IN THE UNITED STATES

On the following pages, 4 to 10, we offer choice, re-cleaned seeds of imported and native grasses suited to the widely varied climatic conditions of this continent. While the various mixtures of grasses made up by us, fully described and illustrated on pages 2 to 5 inclusive, cover the general needs of the American farmer for permanent pasture, and permanent hay, yet sometimes conditions are such, that it is necessary to grow some special grass, or combination of grasses to meet them. For instance, in sections where the rainfall is very light, or in hot Southern climates it is advisable to grow such drought-resisting grasses as Awnless Brome Grass first introduced into this country in 1889 by us; or Johnson Grass and Bermuda Grass which succeed admirably in such latitudes.

Then again, there are special soil conditions which have to be met by prescribing suitable combinations of grasses. We are prepared at all times to make up special mixtures for such particular purposes; and all correspondence relating to such matters will receive our prompt attention. Customers writing us should send a description of soil and climate, and the purpose for which the crop is to be grown, and if it is intended to be sown with a grain crop or alone.

NOTES ON HAY CUTTING AND CURING

Timothy is at the best stage for cutting when all the bloom has dropped and about two-thirds of the heads are of a brown color. Hay made from Timothy cut at this time makes a more strengthening and flesh-forming food than that made from Timothy cut at an earlier or later period. Some farmers harvest their Timothy just as it begins to bloom, claiming that it makes better hay than that from the ripe grass. This, however, is not the case. If the weather is favorable when the

green or immature grass is cut it will make beautiful green colored hay, but the chemical changes which take place result in hay having sour and bitter qualities, instead of a sweet taste which is natural when the Timothy is cut at the proper time. While the latter is brown, and may present a harsh, rough appearance, it is sweet to the taste, consumed freely by the stock and they gain strength and become fat. The stalks of green Timothy hay will be found black at the joints, and when chewed will be found bitter. Green-cut hay is harder to cure and more difficult to keep free from mold when stored than that made from properly-ripened grass.

CURING THE HAY

While we want to "make hay while the sun shines" we must not expose it too long to the sun. Sweet-smelling, sweet-tasting hay carrying a large per cent. of the leaves of the original plant is best in quality. Hay of this kind cannot be made, however, when the crop is cut and exposed to the hot sunshine for a long time. Some sunshine is helpful, of course, but in the production of first-class hay it is not necessary to allow it to be bleached and parched by the sun. Aside from the loss of aroma by long exposure to the sunshine a large per cent. of the leaves will shatter off in handling and thus be lost. And when the leaves are lost, hay of poor quality is the result, for it has been shown that a little more than three-fourths of the food nutrients of the entire plant is in the leaves.—From *Rural New Yorker*.

CREEPING BENT or FIORIN (Marsh or Broad Leaved Bent)

Botanical, *Agrostis alba stolonifera*.

German, *Fioringras*.

French, *Agrostide blanche stolonifera*.

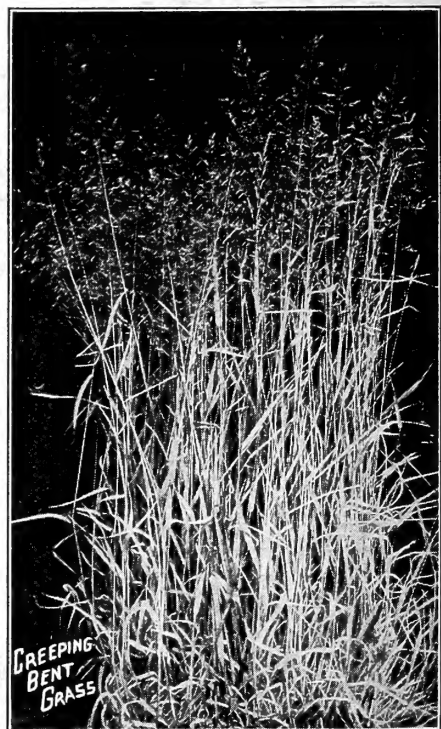
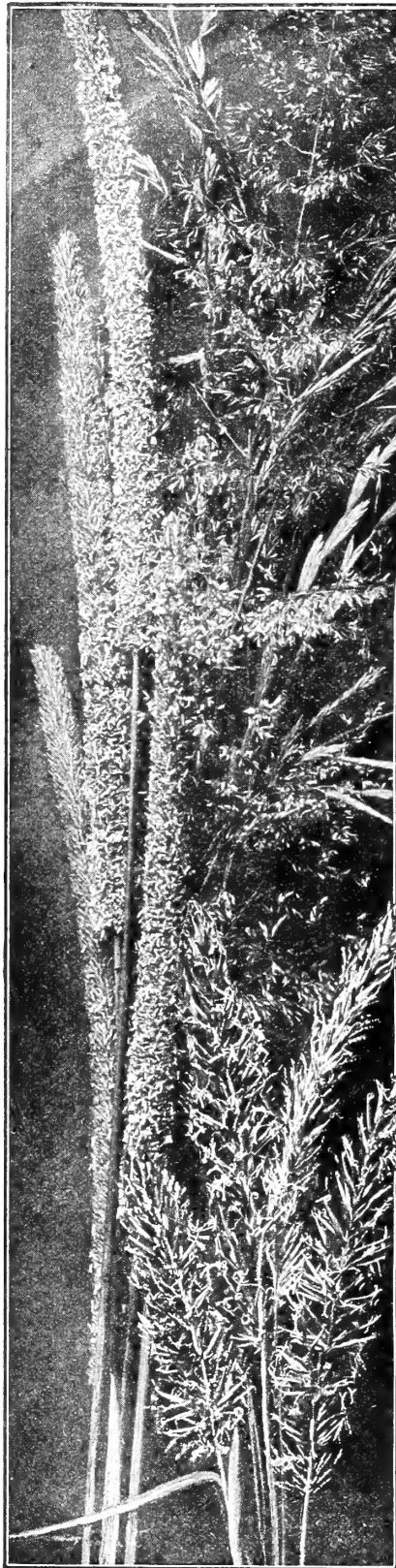
Perennial. Time of flowering, July. Height, 1 to 2 feet.

This grass is well adapted for moist situations, and valuable for affording herbage in early spring and late autumn, before other grasses have commenced or have stopped growing, and in consequence is ad-

vantageously included in permanent pasture mixtures. It is also excellent for lawns. (See engraving.)

Sow (if alone) 2 bushels per acre. Weight, about 20 lbs. per bushel.

Price on application



CHEWING'S NEW ZEALAND FESCUE

Festuca Cheving's. Time of flowering, June. Height, 6 to 12 feet.

Owing to its durable and drought resisting qualities, it is particularly valuable for golf putting and fair greens, and is also well adapted for lawns. Sow (if alone) 2 bushels per acre. Weight per bushel 125 lbs. Price, 55c. per lb., \$13.00 per bushel, \$50.00 per 100 lbs.

AWNLESS BROME GRASS. BERMUDA GRASS
JOHNSON GRASS. SUDAN GRASS

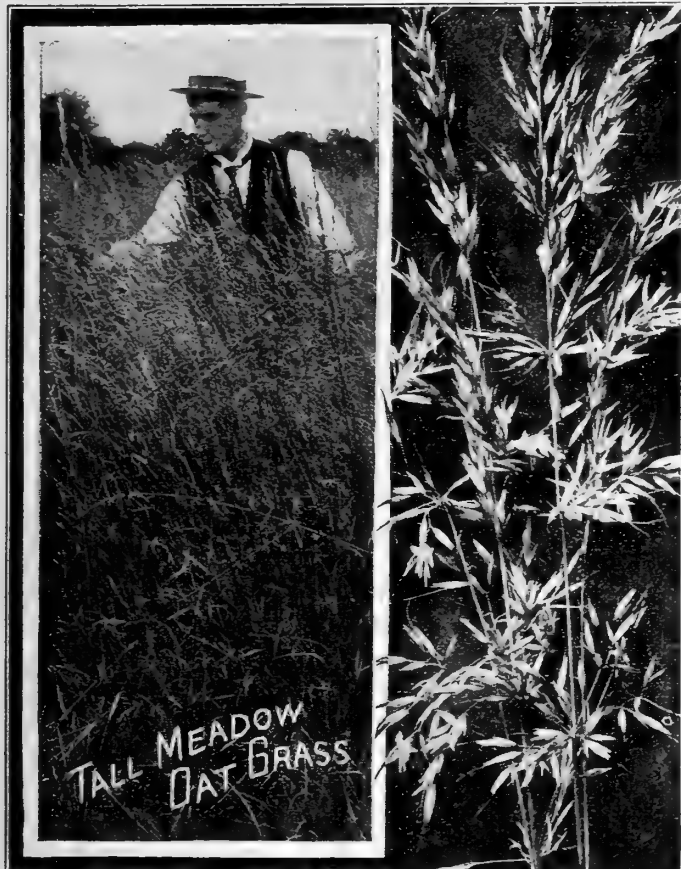
For prices and full descriptions of these valuable grasses, see page 1.

MEADOW FOXTAIL

Botanical, *Alopecurus pratensis.* German, *Wiesen Fuchsschwanz.*
French, *Vulpin des prés.*

Perennial. Time of flowering, May. Height, 2 to 3 feet.

Meadow Foxtail Grass is much cultivated in the British Islands and also on the continent of Europe. It has also attained considerable popularity in many portions of the United States. It is particularly valuable in permanent pastures being rapid and early in growth and capable of enduring for many years. In appearance it much resembles Timothy but the plant is much smoother and softer. It comes into flower several weeks earlier and is also ready for grazing much sooner than Timothy is. Meadow Foxtail is of great value in producing early and continuous pasture in soils suitable to its growth and development, because of its earliness, palatability and permanence. It is highly relished by all kinds of stock whether grazed or fed as hay, its abundant leaf-growth and softness rendering it very palatable to them. Meadow Foxtail endures close cropping better than most other grasses, hence is just the grass for sheep pasture, forms a luxuriant aftermath, and revives quickly after long droughts. As hay it is very nutritious but unfortunately it loses quite a percentage in weight after being cut, and its chief use on the American farm will be in permanent pastures. It grows best in a climate moist and cool, and on rich moist strong soils, with plenty of lime, but of course the grass will grow on any fairly good soil, failing only on dry sands or gravels. Sow in the New England and Middle States as early in the spring as possible, so as to take advantage of all the moisture of the season. In the Southern States it may be sown as soon as the autumn rains begin. When used in permanent pasture mixtures the amount of Meadow Foxtail included will depend upon climate and soil conditions. (See engraving.) Sow (if alone) 3 to 4 bushels per acre; weight, about 7 lbs. per bushel. Price on application.



TALL MEADOW OAT GRASS

Botanical, *Arrhenatherum avenaceum.* German, *Franzosisches Raygras.* French, *Avoine élevée*

Perennial. Flowers in May and June. Height, 2 to 4 feet.

(The *Avena Elatior* of Linnæus) also known as Evergreen Grass, and French Rye Grass.

This grass was introduced into this country from Europe many years ago, and has long been grown in Virginia, Georgia and New England. It is a valuable grass in permanent pastures because of the early and rapid growth it makes in the spring; and also because it produces a very thick aftermath after being mown. It is also highly recommended for soiling as it furnishes an abundant and early supply of fodder. It is a hardy grass and can endure much heat and cold, and consequently will thrive in widely different latitudes. Soils that are sandy in texture, but have enough loam to furnish food for the plants are the best for Tall Oat Grass, but it also grows well on light sandy soils, unless the climate is extremely dry. As Tall Oat Grass makes such a strong growth the first season, and maintains its hold upon the soil very well, it is adapted for use in either short or long rotations. Like all other grasses it is best sown on a clean soil, and when used in the rotation, should follow some cultivated crop; still it is better able to overcome weeds than many other grasses. (See engraving.)

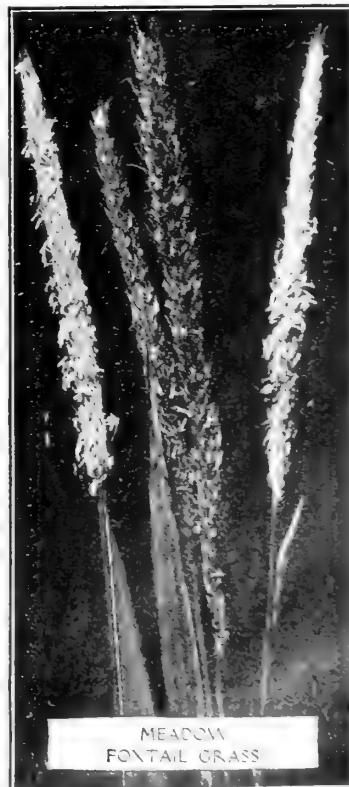
Sow (if alone) 4 to 5 bushels per acre; weight, about 10 lbs. per bushel. Price, 55c. per lb.; \$5.25 per bushel; \$50.00 per 100 lbs.

R.HODE ISLAND BENT (Brown Bent or Dog's Bent)

Botanical, *Agrostis canina.* French, *Agrostide des chiens.*

Perennial. Time of flowering, June to July. Height, 1 to 2 feet.

Its hardy creeping habit renders it desirable for close sward, and it is found to be a very desirable sort in some parts of the country for lawns. Sow (if alone) about 3 bushels per acre; weight, 14 lbs. per bushel. Price on application.



ROUGH STALKED MEADOW GRASS

Botanical, *Poa trivialis*. German, *Gemeines Rispengras*.
French, *Paturin commun*.

Perennial. Time of flowering, July. Height, 2 to 3 feet.

The Lombardy "Queen of Meadow" Grass. An excellent grass for good, deep, rich, moist meadows and stiff, heavy clays. It gives a constant supply of highly nutritive herbage, for which horses, sheep and cattle show a marked partiality. Sow (if alone) 1½ bushels to the acre; weight, about 14 lbs. per bushel. Price on application.

ORCHARD GRASS (Rough Cocksfoot)

Botanical, *Dactylis glomerata*. German, *Gemeines Knaulgras*.
French, *Dactyle pelotonné*.

Perennial. Time of flowering, June. Height, 3 feet.

This is one of the most valuable and widely known of all the grasses, being of exceptional value in permanent pasture mixtures



on account of its earliness and its rapidity of growth. It is ready for grazing several days before any other grass, except Meadow Foxtail. After being mown it produces a luxuriant aftermath. It is quick to recover from close cropping, "five or six days being sufficient to give a good bite." It is relished heartily by all kinds of stock, sheep even passing all other grasses to feed upon it. It succeeds on almost any soil, especially in moist shady places, and in porous subsoils its roots extend to a great depth. It exhausts the soil less than many other grasses, and stands drought well, keeping green and growing when other grasses are dried up. It flowers about the time of Red Clover and makes a splendid mixture with it to

cut in blossom for hay, although it should be cut early or grazed close, as it becomes hard and wiry and loses its nutritive qualities, to a certain extent, when ripe. It should not be sown in mixture with Timothy, for, being three weeks earlier, it becomes pithy if allowed to stand until the Timothy is ready to cut. Cut at the proper time, however, there is no better or more succulent hay. It is inclined to grow in tufts, and should therefore have other grasses sown with it and be sown very evenly. This tufting characteristic unfits it for lawn purposes. Sow (if alone) 3 to 4 bushels per acre; weight, about 14 lbs. per bushel. Price, Choicest, *Re-cleaned Seed*, 55c. per lb.; \$7.50 per bushel; \$50.00 per 100 lbs.

SWEET-SCENTED VERNAL (True Perennial)

Botanical, *Anthoxanthum odoratum*. German, *Gemeines Geruchgras*. French, *Flouve odorante*.

Perennial. Time of flowering, May and June. Height, 1 to 2 ft.

Very valuable on account of its delicious perfume, to which our hay field and pastures owe their fragrance. The odor is more distinguishable when the grass is drying or dried, and when included in hay its aroma is imparted to the other grasses, making it relished by the stock and enhancing the value of the hay. Sow (if alone) 3½ bushels per acre; weight, about 10 lbs. per bushel. Price on application.

RED TOP

(Burden's Grass, Herd's Grass of the South, and in poor soils "Fine Top.")

Botanical, *Agrostis vulgaris*. German, *Amerikan red-top*.
French, *Agrostis d'Amérique*.

Perennial. Time of flowering, July. Height 1 to 2 feet.



Valuable either for mixing in hay or permanent pasture grasses; is common throughout the country; succeeds almost everywhere, but reaches its highest state of perfection in a moist, rich soil, in which it attains a height of 2 to 2½ feet. If for pasture it should be fed close as it is not relished after it grows up to seed. It is often sown with Timothy and Red Clover; the latter of course soon disappears, the Timothy follows; then the Red Top takes

its place. We offer only one grade of Red Top, the finest fancy re-cleaned seed. Weight, 32 lbs. per bushel. Sow (if alone) 1 bushel per acre. Price, 30c. per lb.; \$8.50 per bush. of 32 lbs.; \$25.00 per 100 lbs.

HARD FESCUE

Botanical, *Festuca duriuscula*. German, *Harter Schwingel*.
French, *Fétuque durette*.

Perennial. Time of flowering, June. Height, 18 to 24 inches.

A dwarf growing, very hardy grass of great value, and the most robust of the dwarf grasses. Succeeds in dry situations, and is one of the most important of the Fescues for permanent pastures. In hay its presence indicates a superior quality, and after being mown it produces a very large quantity of food. It comes early, stands long droughts well; stock eat it with avidity, especially sheep. The common name solely applies to the flower heads, which, when ripe, become decidedly hard; the herbage, however, is decidedly tender and succulent. From the fineness of its foliage and its resistance to drought in summer and cold in winter, it is well adapted for lawn grass mixtures. It is somewhat inclined to stool, but when sown with other grasses, if sown evenly, it will not show this characteristic. Sow (if alone) 2½ bushels per acre; weight, about 12 lbs. per bushel. Price on application.



From PETER HENDERSON & CO., NEW YORK

MEADOW FESCUE (English Blue Grass or Sweet Grass)

Botanical, *Festuca pratensis*. German, *Wiesenschwingel*.
French, *Fetouque des pres*.

Perennial. Time of flowering, June and July. Height, 18 to 24 inches.

One of the very best of our natural grasses; very valuable for permanent pastures. It is highly nutritious and greedily eaten by all kinds of stock and is very fattening; makes excellent hay and succeeds well in almost all soils, although it does best in moist land. It is robust in habit and never grows in tufts, although it should be sown with other grasses. It is one of the earliest grasses in the spring and one of the latest in autumn, being particularly valuable for fall and winter pastures. In the climate of Virginia it often remains green under the snow through the winter, and in consequence is frequently called "Evergreen Grass." Sow (if alone) $2\frac{1}{2}$ bushels per acre; weight, about 22 lbs. per



bushel. Price, 35c. per lb.; \$7.00 per bu.; \$30.00 per 100 lb.

ITALIAN RYE-GRASS

Botanical, *Lolium italicum*. German, *Italienisches Raygras*.
French, *Ray-gras d'Italie*.

Biennial. Time of flowering, June or July. Height, 18 to 30 ins.

A variety unequalled for producing an abundance of nutritious feed in the early spring, as well as throughout the season, and it gives quick and successive growths until late in the fall, even if cut several times providing the land is in good condition and not too dry. It is of succulent character and quickly responds to rich food and moisture. It thrives on almost any good soil, but reaches its most perfect state in moist, fertile land. As it is not perennial, it is not adapted for permanent pastures, but for one or two years' lay it is unsurpassed. Sow (if alone) 3 bushels per acre; weight about 18 lbs. per bushel. Price, 25c. per lb.; \$4.00 per bush.; \$20.00 per 100 lbs.



ENGLISH or PERENNIAL RYE-GRASS

Botanical, *Lolium perenne*. German, *Erdlicher Raygras*.
French, *Ray-gras Annuels*.

Perennial. Time of flowering, June. Height, 15 to 24 inches.



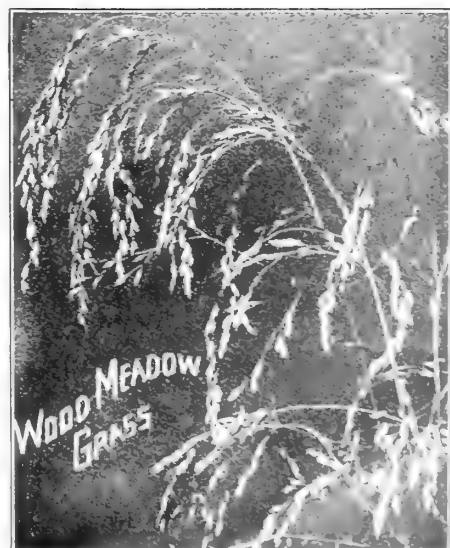
This grass is considered invaluable for permanent pastures. It produces an abundance of remarkably fine foliage, tillers out close to the ground and soon forms a compact sward. After being cut it grows up in a very short time and remains bright and green throughout the season; it consequently is well adapted for lawn mixtures. It is also a good variety for hay if cut when in blossom, as it is then most nutritious; if cut much later it becomes woody. It flourishes best in situations not too dry or subject to droughts. Sow (if alone) $2\frac{1}{2}$ to 3 bushels per acre; weight per bushel, 24 lbs. Price, (extra fine sample), 20 cts. per lb.; \$4.25 per bushel. \$16.00 per 100 lbs.

WOOD MEADOW GRASS

Botanical, *Poa nemoralis*. German, *Hainrispengras*.
French, *Paturin des bois*.

Perennial. Time of flowering, June. Height, $1\frac{1}{2}$ to 2 feet.

This grass is now classed among our good "Shaded Pasture grasses" and furnishes a fine succulent and nutritive herbage which is very much relished by cattle. It is splendidly adapted for moist, shady places and should be included in all mixtures for permanent pastures and lawns for moist soils. It is particularly valuable for lawns overshadowed by trees. It produces a much thicker growth than either *Poa pratensis* or *trivialis*. Sow (if alone) 2 bushels per acre; weight per bushel, about 14 lbs. Price on application.



TIMOTHY or HERD'S GRASS of the North

Botanical, *Phleum Pratense*. German, *Thimothée-Gras*.
French, *Fléole des prés*.

Perennial. Time of flowering, June and July. Height, 2 to 3 feet.

This luxuriates in moist, loamy soils, and sometimes, in favorable situations, attains a height of 4 feet, and even on light soils it yields fair crops. It is exceedingly nutritious, particularly when ripe, but as it is then very hard and pithy, it is better to cut it soon after flowering. It then makes magnificent hay. On dry soils Timothy forms a bulbous swelling at the base of the stems from which the next year's growth starts. It is, therefore, highly injurious under such circumstances to pasture stock on the fall growth, as they trample and cut the leaves off that should protect it during the winter. Even in its most flourishing condition it is more or less injured by pasturing it. Sow (if alone) $\frac{1}{2}$ to 1 bushel per acre; weight per bushel, 45 lbs. Price, Henderson's Standard Sample, 18c. per lb.; \$7.25 per bushel; \$15.00 per 100 lbs. (Subject to change without notice.)



A farmer who always looks for the cheapest and pays little or no attention to the quality and cleanliness of the Timothy, Clover and other grass seed he annually sows, will sooner or later find his farm overrun with weeds, and naturally conclude farming is a failure. The seeds of many of the most pernicious weeds so closely resemble the genuine seeds as to require an expert of long experience to detect them, and the farmer should be certain that the merchant has the expert knowledge. As an instance, hundreds of thousands of pounds of Red Clover heavily adulterated with Yellow Trefoil (a small yellow-flowered annual Clover of little or no value), have in recent years been sold to the unsuspecting farmer by country merchants who did not have the expert knowledge to detect it, and upon whom it had been foisted by unscrupulous dealers, who by means of this adulteration can undersell the market and still make more than a legitimate profit.

CRESTED DOGSTAIL (Gold Grass)

Botanical, *Cynosurus cristatus*. German, *Kammgras*.
French, *Crételle des prés*.

Perennial. Time of flowering, July. Height, 1 to 1 $\frac{1}{2}$ feet.



A fine, short, grass that should enter into all permanent pasture mixtures, especially for dry, hard soils and hills pastured with sheep, as it is very hardy and but little affected by extremes of weather. Sheep fed in pastures where this abounds are less subject to foot rot. It is tender and nutritious and relished by all stock until it commences to ripen; it then becomes wiry. On account of its close growing habit, the dense turf it produces and its evergreen foliage, it is particularly desirable for lawn mixtures. Sow (if alone) $\frac{1}{2}$ bushels per acre; weight about 21 lbs. per bushel. Price, 40 cts. per lb.; \$7.75 per bushel; \$35.00 per 100 lbs.

KENTUCKY BLUE GRASS

Also called **June Grass, Smooth Stalked Meadow Grass, Green Meadow Grass, and Spear Grass**

Botanical, *Poa pratensis*. German, *Wiesen Rispengras*.

French, *Paturin des prés*. Perennial. Time of flowering, June. Height, 10 to 15 inches.

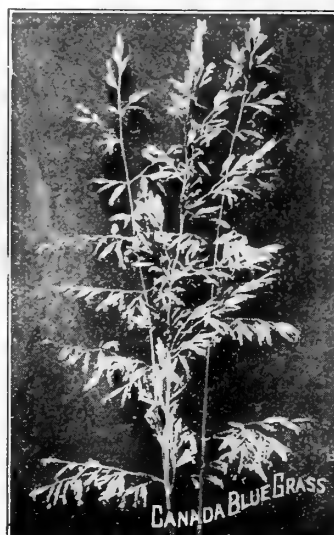
This valuable grass is suited to a variety of soils, from an average dry one to moist meadows. It is exceedingly popular in most parts of the country as a pasture grass. It is very productive, unusually early, and presents a beautiful green appearance in early spring, while other grasses are yet dormant. It furnishes delicious food for all kinds of stock all through the season—unless there should be a protracted drought, which would cause it to slowly dry up—until the fall rains, when it springs forth and grows luxuriantly, and furnishes pasturage until frozen up in winter.



In Kentucky and similar latitudes, when allowed its full tall growth, it makes fine winter pasture, and sheep, mules and horses will paw off the snow and get plenty to live on without other food. It makes a splendid lawn grass, forming a thick turf, and being of very even growth, producing only one flowering stem a year, while many other grasses continue to shoot up flower stalks throughout the season. Kentucky Blue Grass also makes hay of excellent quality, but the yield for this purpose is not equal to some other grasses. Sow (if alone) 3 bushels per acre. Though offered at the standard weight of 14 lbs. per bushel, we keep nothing but fancy re-cleaned seed, free from chaff, the natural weight of which is 20 to 25 lbs. per measured bushel. Price, 45 cts. per lb.; \$6.00 per bushel of 14 lbs.; \$40.00 per 100 lbs.

CANADA BLUE GRASS (*Poa Compressa*)

Perennial. Time of flowering, July. Height, 6 to 12 inches.



A valuable grass for hard, dry soils. It grows on land so poor and thin as to exclude the growth of other grasses. It is especially valuable for dairy pastures. Cows feeding on it yield the richest milk and finest butter. Being of an extensive, creeping habit, it forms a strong turf. Not recommended for highly cultivated land, as it is liable to become troublesome owing to its creeping rootstocks. It is an exceedingly valuable pasture grass on dry, rocky knolls and should form a portion of the mixed grasses for such soils; as it shrinks very little in drying, it makes heavy hay in proportion to its bulk. Sow if alone, 3 bushels per acre. Weight of bushel, 14 lbs.

Price, 30c. per lb.; \$3.75 per bushel. \$25.00 per 100 lbs.

We are prepared to make up Special Mixtures of Grass Seeds for particular purposes—situations or conditions—and any correspondence in regard to such will receive our prompt attention.—F. H. & Co.

From PETER HENDERSON & CO., NEW YORK

TALL MEADOW FESCUE

Botanical, *Festuca elatior*. German, *Hoher Wiesenschwingel*. French, *Fétuque élevée*.

Perennial. Time of flowering, June and July. Height, 3 to 4 feet.

A coarse growing grass, nevertheless it is very nutritive and productive, and is naturally adapted to moist, stiff or clayey soils and shady woods, and is considered by some authorities to be one of the best grasses in cultivation. It is greedily eaten by stock when green, and should be included in all permanent pasture mixtures for moist or strong lands. It also makes a very good quality of hay, but is too robust for lawn purposes. Sow (if alone) $2\frac{1}{2}$ bushels per acre; weight about 14 lbs. Price 60 cts. per lb.; \$8.00 per bushel; \$55.00 per 100 lbs.



TALL MEADOW FESCUE.

VARIOUS-LEAVED FESCUE

Botanical, *Festuca heterophylla*. German, *Wechselblattriger Schwingel*. French, *Fétuque feuilles variées*.

Perennial. Time of flowering, June and July. Height, $2\frac{1}{2}$ to 3 feet.

A native of France and a valuable grass for permanent pastures, especially on uplands, and is a very popular continental grass, well adapted where a heavy swath is wanted. It yields a large bulk of herbage, but produces little feed after mowing. Its beautiful, dark green foliage renders it suitable for park mixtures. Sow (if alone) 3 bushels per acre; weight, about 14 lbs. per bushel. Price on application.

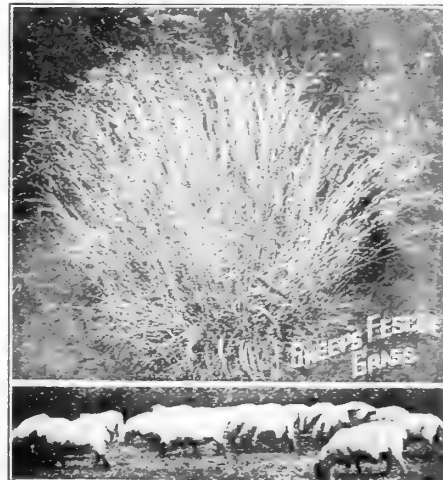


SHEEP'S FESCUE

Botanical, *Festuca ovina*. German, *Schafschwingel*. French, *Fétuque des brebis*.

Perennial. Time of flowering, June and July. Height varies from 6 to 24 inches.

For good upland or dry pastures, a large portion of this grass should be included in the mixture, especially if it is used for sheep grazing, as it is greatly relished by them. The Tartars generally pitched their tents in proximity to this grass on account of its value to their herds. It is short and dense in growth, and its excellent nutritive qualities more than counterbalance its slight deficiency in quantity. Its fine foliage and compact habit render it desirable for lawn mixtures. Sow (if alone) $2\frac{1}{2}$ bushels per acre; weight about 12 lbs. per bushel. Price on application.



FINE LEAVED SHEEP'S FESCUE

Botanical, *Festuca ovina tenuifolia*. German, *Feinblattriger Schwingel*. French, *Fétuque à feuille menue*.

Perennial. Time of flowering, June. Height varies from 8 to 24 inches.

This is similar to the Sheep's Fescue mentioned above, except that the leaves are much finer. Cattle are very fond of it, and it grows naturally in many parts of the world. It is found in the Arctic regions, in the wilds of New Zealand, and in Europe. In the northern districts of Great Britain it sometimes forms the whole food of the Highland cattle. It is very suitable for permanent pasture, especially on uplands and dry soils. Its rich, dark green gives a fine appearance to hay, and renders it also valuable for lawn mixtures for dry situations.

Sow (if alone) 3 bushels per acre; weight, about 14 lbs. per bushel. Price on application.

RED or CREEPING FESCUE

Botanical, *Festuca rubra*. German, *Rother Schwingel*. French, *Fétuque rouge*.

Perennial. Time of flowering, June and July. Height, 2 to $2\frac{1}{2}$ ft.

This grass is of a remarkable creeping habit and endures severe droughts. Its roots penetrate so deeply into the soil that it remains fresh and green when other varieties are apparently dried up. It is particularly adapted for dry pastures by the seaside and on loose, light soils, the slopes of railroad cuts, etc., if dry. It yields an average bulk of herbage of fair quality, although most nutritious at time of flowering. Sow (if alone) $2\frac{1}{2}$ bushels per acre; weight, about 14 lbs. per bushel.

Price, 55 cts. per lb.; \$7.50 per bush.; \$50.00 per 100 lbs.



DROUGHT-RESISTING GRASSES

ADAPTED FOR
SOUTHERN
CLIMATES

AWNLESS BROME GRASS

(BROMUS INERMIS)

A valuable Grass for light soils and dry situations either in the North, South, East or West. Good for both grazing or hay.

This luxuriant drought-resisting, hardy perennial grass, introduced into this country by us in 1889, has proven to be a most important and valuable hay and pasture grass, thriving under the trying conditions of the dry regions of the West and Northwest. It is very hardy, living through winters where the temperature falls many degrees below zero. It roots deeply, grows rapidly, in good soils attaining a height of 4 feet, yielding up to 4 tons of cured hay per acre. Even on very poor, sandy land it gives fair crops, having yielded 1 to 1½ tons per acre when Timothy was a failure. As a permanent pasture grass, especially for dry sections, it is very valuable, starting into growth very early in the spring, usually 3 to 4 weeks before other grasses; it forms a tough, close turf, stands grazing and the trampling of stock, does not dry up in summer, remaining green until late in the fall. It is very nutritious either as hay or pasture. Stock relish it and thrive on it; experiment stations place its feeding value ahead of Timothy, though it does not equal Alfalfa as a milk and butter producer, but it is always safe to feed. Brome Grass is a splendid humus former and greatly improves the physical condition of the soil, the roots penetrating 4 to 6 feet deep. Sow the seed broadcast (20 to 25 lbs. per acre) in spring or early summer. (See engraving.) Price 45c. per lb.; \$6.00 per bush. of 14 lbs.; \$40.00 per 100 lbs.

SUDAN GRASS or "Garawi Grass"

The Great Hay and Forage Crop for Drought-Afflicted Sections. Especially for the Southwest.

This valuable new forage plant was introduced into the United States by the Department of Agriculture. The seed was brought from the Soudan, Egypt, hence the name "Sudan Grass." Sudan Grass is strictly an annual, having no underground root-stocks to spread over the ground, which is a point very much in its favor because there is no danger of its getting out of bounds and becoming a pest. It is thoroughly killed by frost each year, and the seed must be sown again.

When broadcasted for hay it rarely attains a height of more than 4 or 5 feet. The stems are smaller and more leafy than Johnson Grass which it most resembles, and the hay is much softer. When broadcasted for hay, or as a catch crop for forage, the number of cuttings secured will depend on the length of the season and the amount of moisture. The first crop matures in from 50 to 75 days, and the recovery after cutting is so rapid that another cutting may be taken 25 to 35 days later. Sudan Grass will produce as much as any variety of Millet and yield two to four cuttings per year. Its great value to the farmer in the eastern part of the country, or in a droughty section is the ease with which it can be grown, and its profitable yields of forage. All stock eat it greedily, and no ill effects have been known to follow feeding it to working animals. Sow broadcast for hay or forage using 15 to 20 lbs. per acre.

Price, 35c. per lb.; \$3.00 per bushel of 25 lbs.; \$30.00 per 100 lbs.

BERMUDA GRASS (CYNODON DACTYLON)

Good for both Pasture and Hay. Especially adapted for the South where other grasses will not grow.

This perennial grass, of low-creeping habit, is eminently adapted for the Southern States, as it withstands drought and the scorching rays of the sun better than any other variety. In all tropical countries this grass is highly esteemed for its drought-resisting qualities, and also for the peculiar habit of its growth; the wiry roots of the grass in running over the surface of the ground form a strong, fibrous matting. This has caused it to be sown largely for the purpose of binding banks of creeks and dams, etc. It is, however, preeminently a pasture grass, rooting at the joints and forming a closely interwoven turf that withstands the grazing and trampling of stock; the numerous leaves produced from the base of the plant furnish excellent summer pasturage in sections where other grasses burn out. It also supplies a nutritious hay if cut early and often, yielding under ordinary conditions 1 to 2 tons per acre. It thrives on most soils, preferring a rich, sandy loam. As it spreads rapidly and soon takes possession of the soil, it is in consequence principally used for permanent pastures and also for lawns.

For lawns in the hot Southern States it is highly prized, as while all other grasses are burned up during the hot season, Bermuda Grass will remain green, and, if regularly mown, it will make quite a velvety carpet. The only drawback is that in winter it looks a little brown, but in the Southern States an all-the-year-round green lawn can be maintained by sowing English Rye Grass every fall at the rate of 50 lbs. per acre and harrowing or raking it into the Bermuda Grass sod. Bermuda Grass seed should be sown in the spring, as it will not germinate until warm weather comes. As a grass for hay or pasture, it matures and gives its first cutting ordinarily in June. It does not succeed further north than Virginia. Sow 6 lbs. per acre. Price, 75c. per lb.; 100 lbs., 70c. per lb.

JOHNSON GRASS (SORGHUM HALAPENSE)

As a meadow or hay grass, this variety is highly esteemed in the South, where during the hottest and driest seasons it can be relied upon to yield heavily. The aggressiveness of this grass has caused it to be considered a veritable curse by some farmers by spreading into cultivated fields, but it is highly esteemed by those who understand it. Where it is desired to keep it within bounds, the seed should never be allowed to ripen, as it spreads from the seeds disseminated through hay much more than is generally supposed. Besides, when fully ripe, the feeding value is little better than corn stalks, but, cut before the seed tops emerge from the sheaths, its value as shown by chemical analysis is better than Timothy hay. When cut at time recommended, the embryo seeds are unpollenized and imperfect, and are incapable of sprouting, so there is no possibility of introducing this grass where it is not wanted by using such hay. We only advise the sowing of Johnson Grass where it is desired to remain as permanent meadow. Should be sown August to October, or in spring, at the rate of one bushel per acre.

Price, 55 cts. per lb.; \$13.00 per bushel of 25 lbs.; \$50.00 per 100 lbs.



We are always glad to advise with our Patrons—Seventy-one years of accumulated experience back of our advice

There has been a considerable advance in the prices of Red Clover due to the short crops in the United States and the large export demand.

We would therefore advise a more liberal use of Alsike this year, which is less expensive and when sown in combination with either Medium or Mammoth Red Clover, yields excellent hay and pasture. It frequently succeeds where other sorts fail. Clovers being usually sown at the rate of 10 lbs. per acre, we recommend seeding 5 lbs. of Red, Medium or Mammoth, and 5 lbs. Alsike per acre.

Henderson's Re-cleaned CLOVER SEEDS

NOTES ON CULTURE, Etc.

Clovers yield 2 to 3 tons of cured, nutritious hay per acre; and furnish a better balanced ration, than almost any other kind of food. Red Clover makes two crops in one season.

All farm animals thrive on the Clovers, particularly cattle, sheep and hogs. Few pasture crops grown will furnish as much grazing in a season as Red Clover.

All Clovers have the power to gather Nitrogen from the air, and store it in the soil in the form of nodules on the roots; thereby providing rich food for crops of cereals, etc., which follow.

Thus they save to a great extent the cost of expensive commercial fertilizers, and the labor of loading and spreading farm yard manure.

The long roots of Clover penetrate deeply into the soil, improve its drainage, render it more friable, and increase its capacity for holding moisture.

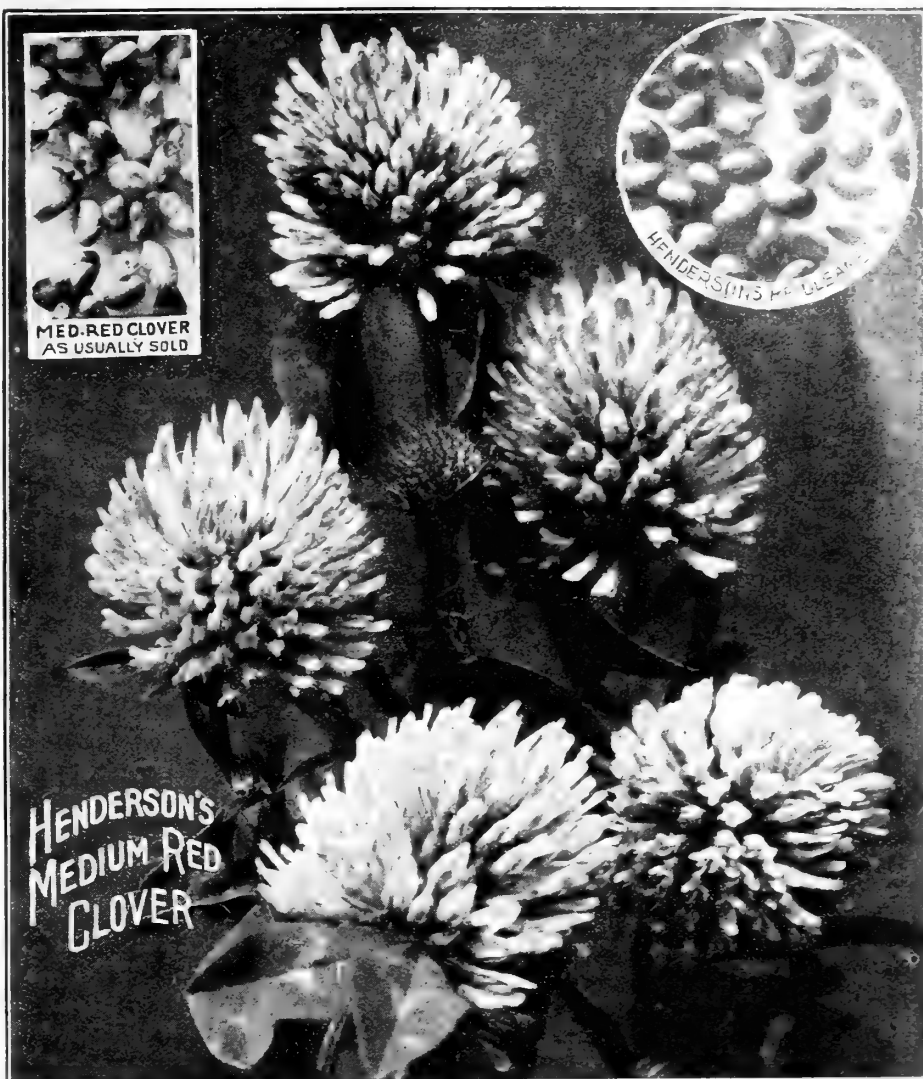
When plowed under, Clover crops add humus to the soil, and further improve its tillable condition.

Cutting Clover For Hay

The best time to cut clover for hay is as soon as the field presents a rather red color; that is, when about two-thirds of the heads have reached full bloom. If we fail to start the mower till all the heads have blossomed out about a third of the crop will have started making seed, and the clover will begin to lose in feeding value. It is better to begin cutting too soon than to wait too long. After the period of full bloom certain changes take place within the plant, and part of the protein, fats and carbohydrates are transported from the stems and leaves to the heads for the development of seed. The total amount of protein, fats and carbohydrates is not thereby changed, but they are changed in form, and when stored up in the seed they become lost so far as food for stock is concerned. A goodly amount of the food value of the forage is lost when the clover is allowed to get too ripe before being harvested. Not only does the protein in the leaves and stems decrease during the period of seed formation, but the crude fibre increases correspondingly and this, to a certain extent, interferes with

RED CLOVER

This is by far the most important Clover grown in the Northern, Eastern and Central states, though it is also largely grown in some parts of the West and South. It thrives most luxuriantly on strong, well drained loams, though it does well on a great variety of soils excepting sour, or acid soils, when lime, plaster or woodashes must be applied to counteract the acidity. Red Clover according to locality is a biennial or short-lived perennial. It grows one to two feet in height and usually makes two crops a year, yielding two to three tons of cured hay per acre. Clover hay is very nutritious; all stock fed on it require less grain; chopped and steamed it is a good substitute for green food for poultry during the winter. As pasturage all animals thrive on it, particularly cattle, sheep and pigs, and as a green manuring and soiling crop it is very valuable, adding humus and nitrogen to the soil. In Northern states Red Clover seed is usually sown in the spring; the earlier the better. If grown alone, use 12 to 14 pounds of seed per acre if broadcasted and cover not over half an inch deep. Red Clover may be seeded with a number of different grasses as Timothy, Orchard Grass or Tall Oat Grass, but usually it is grown with Timothy, 8 to 10 pounds of Clover and half a bushel of Timothy seed being sown per acre. A very satis-



the digestion of the protein and carbohydrates. Many farmers make the mistake of waiting too long before cutting their clover. I know that sometimes this cannot be avoided because of other work or unfavorable weather conditions, and where this is the case I have nothing to say, but I want to urge every one to make a strong effort to begin cutting his clover in plenty of time. When the clover is "just right" to cut for hay it has taken up all the plant food from the soil and the atmosphere that it is going to take up, and it contains all of the nutrients it ever will possess.

From *Rural New Yorker*, June 19th, 1915.

(Common or Medium Clover, June Clover.)

Botanical, *Trifolium pratense*. German, *Kopfklee*, *roth bluhender*. French, *Trèfle rouge*.

factory combination is 5 pounds of Red Clover, 5 pounds of Alsike Clover, 20 pounds of Timothy and 5 pounds of Fancy Red Top per acre. This makes a fine quality of merchantable hay and the field does not run out so soon as Clover and Timothy alone. (See engraving.)

Price (subject to change without notice), Henderson's Superior Sample (extra re-cleaned), 52c. lb., \$30.00 bushel of 60 lbs., \$48.00 per 100 lbs.

CAUTION.—Every care should be exercised in buying Red Clover, for there are always on the market at a cheap price, inferior quality clovers, infested with weed seeds, which in size and appearance closely resemble Red Clover, and cannot be cleaned out. Our seed is of high germinative power and free from weed seeds and foreign matter.

"I am glad to be able to say to you that I had the best crop of clover I have ever seen grown, which I plowed under, grown from your seed. A very successful class this year. Hay crop grand."

W.M. B. OSLER, E.

PRICES OF CLOVERS ARE SUBJECT TO CHANGE WITHOUT NOTICE

WHITE CLOVER

(DUTCH or HONEYSUCKLE CLOVER)

Botanical, *Trifolium repens*. German, *Weissklee*.

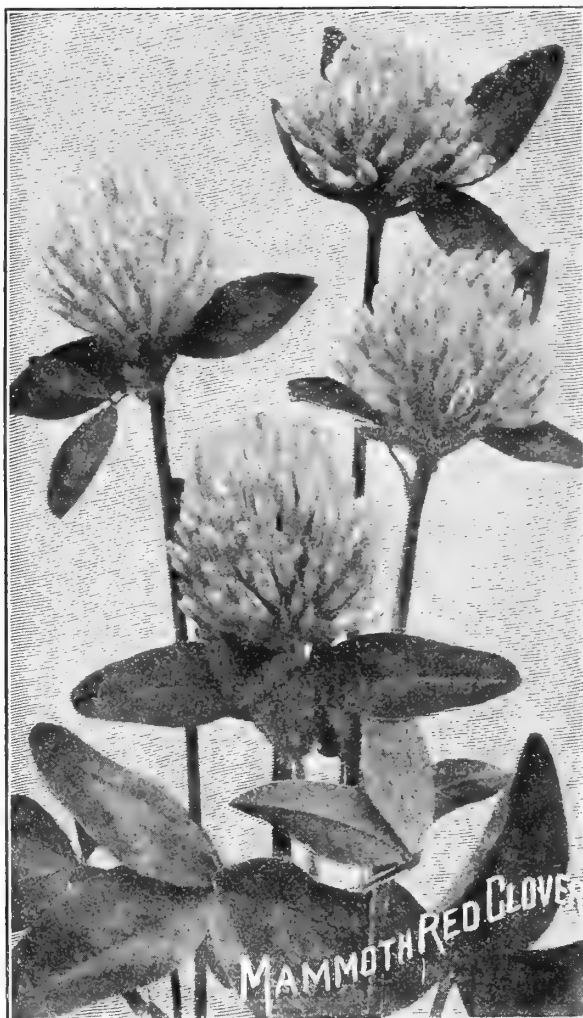
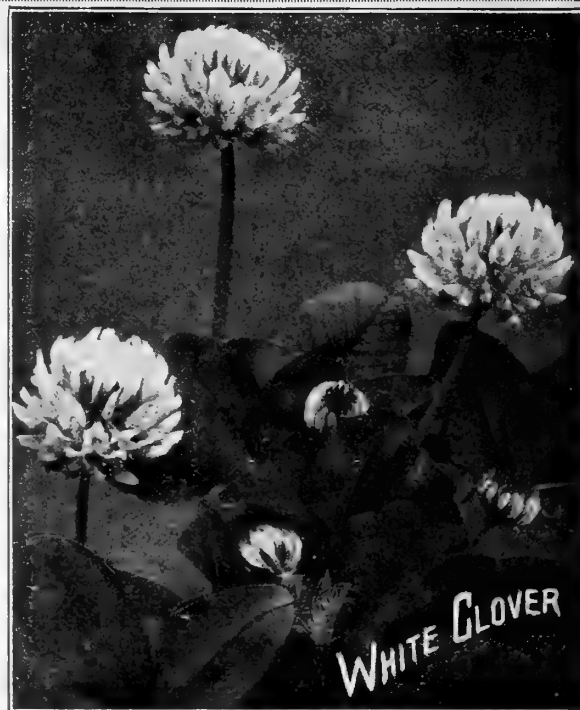
French, *Trefle blanc*.

Perennial. Time of flowering, May to September. Height, 6 inches (creeping).

A very hardy, creeping Clover, which accommodates itself to a great variety of soils and climates; being found in every state in the Union. It grows most luxuriantly in moist ground or during wet seasons, but succeeds wherever there is enough rainfall to grow cereal grains. It is a perennial plant, the stems having the habit of creeping along the ground and taking root at the joints, so that plants are multiplied indefinitely. White Clover also remains in bloom so long, that blossoms are forming and maturing seeds most of the summer, and vast numbers of young plants spring up from these self-sown seeds. It will therefore readily be seen, that once it takes possession of the land—even though grazed—it will be permanent for a number of years.

White Clover is also a very valuable addition to mixtures for permanent pastures, as it furnishes considerable plant food to the other Grasses composing such mixtures. This is owing to the ability of its stems to continually produce new plants which occupy the soil when the old plants die and are turned into fertilizer.

In mixtures for lawns, White Clover is always used, as there is no plant more suitable for the formation of a dense sward, and also to prevent the washing out of soil during heavy rains. As a bee plant it is famous the world over, and there is probably no other plant in existence which furnishes more or better honey. Sow (if alone) 8 lbs. per acre; weight, per bushel, 60 lbs. (See engraving.) 85c. per lb., \$48.75 per bushel, \$80.00 per 100 lbs.



MAMMOTH or PEA VINE RED CLOVER

(PERENNIAL RED CLOVER or COW GRASS)

Botanical, *Trifolium pratense perenne*. German, *Bullenklee*.

French, *Trefle vivace d'Agleterre*.

Perennial. Time of flowering, July. Height, 2 to 3 feet. Quite distinct from the common Red Clover, being of larger and coarser growth and valuable for purposes for which the latter is entirely unsuited. It lasts longer and is two or three weeks later than common Red Clover. Of very robust growth, yielding enormous bulk, valuable for reclaiming exhausted lands. Sow (if alone) about 12 lbs. per acre; weight, 60 lbs. per bushel. (See engraving.) Henderson's Superior Sample (extra recleaned). Price, 54c. per lb., \$31.00 per bushel, \$50.00 per 100 lbs.

WHITE BOKHARA CLOVER

(SWEET CLOVER)

Botanical, *Melilotus alba*. German, *Wunderklee*. French, *Trefle de Bokhara*.

Biennial. Time of flowering, June to September. Height, 3 to 5 feet.

A perennial leguminous plant of tall, shrub-like growth, occasionally grown as a forage plant, and often for bees; the numerous small white flowers possess a sweet, honey-like fragrance. The importance of Bokhara Clover, however, is its value for plowing under for green manuring, particularly to prepare poor soils where it is difficult to get other crops to grow. Sow 10 lbs. per acre; weight 60 lbs. per bushel. 42c. per lb., \$23.50 per bushel, \$38.00 per 100 lbs.

JAPAN CLOVER

(LESPEDEZA STRIATA)

An annual leguminous plant considerably grown, particularly in the South, as a summer pasture, green forage and hay crop. It also has much value as a soil enricher when plowed under as green manure. It will flourish on poor and exhausted soils, too poor to produce profitable crops of any other forage plant. Though an annual, once sown it reseeds itself from year to year, and in that way will last indefinitely, and is pronounced by competent authorities as the best pasture plant for impoverished soil in the Southern states. Sow 14 lbs. per acre; weight 20 lbs. per bushel. 65c. per lb., \$12.50 per bushel of 20 lbs., \$60.00 per 100 lbs.

ALFALFA BOOKLET

This booklet "Alfalfa on Northern Farms," contains much information of value to growers of Alfalfa, especially those in the Northern and Eastern sections. We mail it free to all applicants.

In consequence of the advance of price of Red Clover we advise a much larger use of Alsike this year. (See page 13)

HENDERSON'S SUPERIOR RECLEANED Crimson or Scarlet Clover

Botanical, *Trifolium Incarnatum*. French, *Trèfle Incarnat*. German, *Incarnat Klee*.
Annual. Time of flowering, June. Height, 2 feet.

A Boon to Agriculture, A Gold Mine on Your Farm

The importance of this Annual Clover is realized more and more every year, not only as a pasture, green forage and hay crop, but as a cover crop and soil renovator. While it grows most luxuriantly on fertile loam, yet it will thrive better on thinner and poorer soils than Red Clover and is more efficient for green manuring than the latter.

Crimson Clover forms an upright branching plant 1 to 2 feet in height, according to soil, locality and season. It roots very deeply and is a bountiful provider of nitrogen.

As Hay—Cut when coming into full bloom, not later—and properly cured—it is even superior to Red Clover, is more nutritious, richer in protein and especially adapted for growing and working animals. The yield of cured hay on average soils is 2 to 3 tons per acre, on lighter soils less and on heavier, richer soils, phenomenally large crops have been produced.

For Green Forage and Silage it is of high feeding value, especially for dairy stock and is much relished by them. The average yield cut green before the flowers commence to mature is 8 to 15 tons per acre, though up to a 20-ton yield per acre is sometimes reported.

As Pasture Crimson Clover makes one of the best early spring pastures, supplying an abundance of nutritious herbage for several weeks if stock is turned on it when about 6 inches high.

As a Green Manuring Crop Crimson Clover is of the greatest value, particularly as its season of growth permits it to be sown in summer or early autumn after a grain or vegetable crop has been removed and then be plowed under the next spring. Thus it does not in any way interfere with other crops.

Plowing under a good crop of Scarlet Clover is equivalent to 20 tons of stable manure per acre and even if the Clover be harvested or pastured, the benefits derived from the wonderful nitrogenous root formation will alone many times repay the cost of seed and labor.

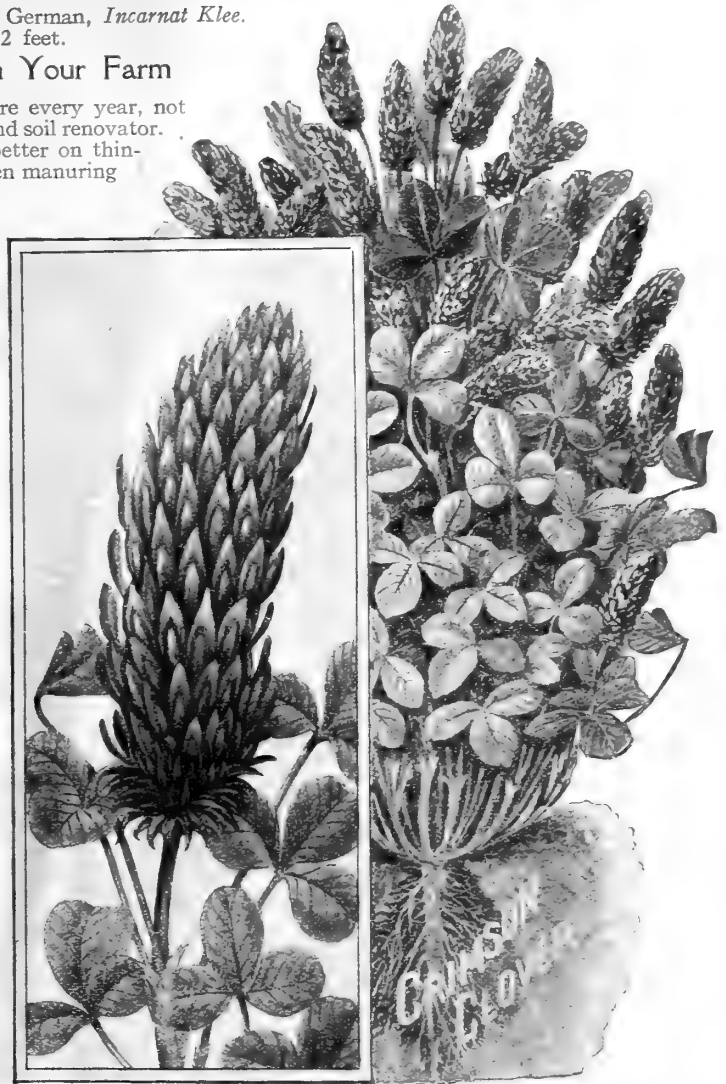
It is the cheapest source of nitrogen, and has revolutionized the methods of farming in many States, has restored to profitable cultivation thousands of acres of poor land.

As a Cover Crop and winter soil mulch it is peculiarly well adapted. It may be sown among Corn, Tobacco, Sorghum and other crops after the last cultivation and when the primary crop is removed the Crimson Clover will come on and cover the ground fall, winter and early spring. It is one of the best cover crops for orchards and small fruits, and also one of the best sources of nitrogen for them.

Harvesting and Feeding. Crimson Clover should not be fed either cured or green after the flowers begin to mature for the hairs of the calyx then begin to stiffen and harden and are apt to form troublesome "hair balls" in the stomachs of animals.

Seeding. Sow at the rate of 15 pounds of seed per acre, either broadcast or drilled. Cover lightly with a harrow. If sown too early, especially in Southern States, Crimson Clover is apt to mature and form seeds the same season without making full growth. In the latitude of New York City sow from July 15 to September 15, and in the South as late as October.

Price.—Henderson's choicest new crop of Crimson Clover seed of highest growing quality, thoroughly re-cleaned and free from weed seeds. (See engraving.) 35c. lb.; \$18.75 bushel of 60 lbs.; \$30.00 per 100 lbs.



In consequence of the advance in prices of Red Clovers, we advise a much larger use of Alsike this season. It is less expensive and greatly improves Red Clovers when sown with them. We recommend seeding 5 lbs. of Red Clover and 5 lbs. of Alsike per acre.

(Swedish Clover) Alsike or Hybrid Clover

Botanical, *Trifolium hybridum*. German, *Bastard Klee*. French, *Trèfle hybride*.

Perennial. Time of flowering, July and August. Alsike or Swedish Clover is a hybrid intermediate in growth and appearance between Red and White Clovers. The blossoms are pinkish white. It is a perennial and one of the hardiest of all Clovers, thriving particularly well in cool and cold climates and stands freezing well, but also adapts itself to most climates where Clovers grow, and will grow in moister soil than Red Clover; in fact, has produced splendid crops under irrigation. The plants attain a height of one to two feet; stems and leaves, though smaller than those of Red Clover, are much more numerous, making hay of finer texture. It is very nutritious, its feeding value equalling that of Alfalfa and is good for either green forage, pasture or hay. When mixed with Red Clover it improves the quality of the latter. It is valuable for sowing with other Grasses and Clovers as it forms a thick bottom, increasing the yield of hay.

Alsike frequently produces good crops on soils on which Red Clover will not grow. We strongly advise farmers to add 2 or 3 lbs. per acre to their usual seeding of Red Clover and Timothy. Sow (if alone) 8 lbs. per acre; weight 60 lbs. per bushel. 42c. per lb., \$23.50 per bushel of 60 lbs., \$38.00 per 100 lbs.

We Solicit Correspondence on Farming and Will Advise on Subjects Connected With Farm Crops, etc.



HENDERSON'S NORTHERN GROWN ALFALFA MEDICAGO SATIVA

Yields Good Crops in all Sections of the United States. Is a most Efficient Hay-Producer and Soil-Enricher

It has been well said that if "Corn is king," Alfalfa is the "Queen of forage plants."

Yet Alfalfa growing in the Northeast is not as universal as it should be, although there has been a vast increase in the acreage devoted to its cultivation. Alfalfa is a true leguminous plant, and a perennial, staying on the land for many years. It sends down its long tap-roots into the subsoil—five, ten, twenty, or even thirty feet, and utilizes the plant foods contained therein. It is a great soil enricher, for the nodules on its roots are the home of bacteria that extract the nitrogen from the air and transform it into a valuable fertilizing element. For this purpose it is superior to any other plant, because in addition to the nitrogen gathered from the air, its deep tap-roots bring up other mineral constituents from the lower layers of soil, to be utilized later by shallow feeding crops. It has been calculated by competent authority that the amount of fertilizer, that will come from an acre of good Alfalfa is equal to what the farmer would pay \$60.00 for, if purchased by the bag. As a hay producer it surely has no equal when once established, as from three to four cuttings may be had in a season, according to conditions, totaling four to six tons per acre.

THE FEEDING VALUE OF ALFALFA

is very high, being very rich in protein—which builds up blood, muscle and bone in growing animals. Corn and its fodder, and most other farm crops, are rich in carbohydrates, the fat-forming element, but deficient in protein, so that Alfalfa is the best crop to balance up the fat-forming feeds. Corn and Alfalfa form the ideal food for fattening all farm animals, one supplementing the other. Alfalfa and Barley, Alfalfa and Wheat, or Alfalfa and Oats are all excellent combinations.

Alfalfa naturally prefers a rich, loose limestone soil with a porous subsoil; but it also grows and thrives on a variety of soils, and in many different climates. Briefly, there are three essentials—the land must be drained if wet, it must be sweetened with lime if acid, and there must be humus and nitrogen in the soil, which may be easily supplied by barnyard manures, or green crops plowed under. When lime is not present in the soil, it must be supplied, the amount used being 1 ton of quicklime, or 2 tons of ground limestone per acre.

The time to sow in the North and Eastern States is June, July or August, 30 to 40 lbs. per acre if broadcasted or 25 to 30 lbs. if drilled in; in the South sow in February or September. (See engraving.)

Price, 35c. per lb.; \$18.75 per bushel of 60 lbs.; \$30.00 per 100 lbs.

CURING ALFALFA FOR HAY

In the growth of any hay-producing crop there is just one short period at which it can be harvested and good hay made from it, and when that time has arrived we should not lose a moment's time in getting the mowers in the field. A good deal more depends on hay being made at the right time than the manner of harvesting the crop. When is the best time to cut Alfalfa? This is an important question, and one that every Alfalfa grower needs to study and master. Many fields of Alfalfa are injured by the crop being cut too soon or left too long. In my experience I have found that I can make an extra good quality of hay by cutting the crop when it is about one-third in bloom. At this time new growth has started from the bottom of the plants, which is a good indication that the crop is ready to cut. It is very essential that the crop be harvested immediately when this new growth appears, and it should not be cut before that time, for if it is cut before these buds or new shoots have been thrown out from the root the Alfalfa will be at a standstill until it has time to make this new

new growth. It will require about 10 days for the Alfalfa to start these buds or shoots, and during that time troublesome weeds will make their appearance, the Alfalfa in many cases will become of a yellowish color, and the following crop will inevitably be a short one. Hence we must not cut Alfalfa until it has thrown out buds or new shoots near the root. Then the new crop will start off vigorously and we shall soon have a good growth for a second, third or fourth cutting. If, however, we neglect to cut the Alfalfa immediately after it has made this new growth the plants will begin to throw their strength to these buds, the main stalk will start to crinkle down, and the hay will not be of the best quality. If the first crop is not harvested at all it will grow and produce seed, but the second crop will not be as good as it would have been had the first crop been removed, for a seed crop detracts a good deal from the next cutting.

Rural New Yorker, June 19, 1915.

"You may be interested in learning of the result of the test I had made on your Alfalfa. It shows 96.5 with no weeds. I have another sample at 75c. per lb. that has weeds in it, and that only shows 85."

WM. H. OAT, Norwich, Conn.

"That Alfalfa I bought of you is more than a success, it is a wonder to all the farmers around here. No rain here for eight weeks, yet it is growing fine while around the fields are all dried up."

THOMAS S. OSBORN,
Amagansett, L. I.

"Last August I bought seed from you to sow about 1/4 of an acre to Alfalfa. Had good success with it, having had a very good stand and now want to sow a piece of land about 100 ft. x 500 ft."

OLIVER LAWRENCE,
917 Kline Street, Springfield, Ill.

"Planted four acres with Alfalfa seed purchased of you last August and have an excellent stand. Does not seem to have been hurt to any extent by the winter."

H. TURNER,
Chester Springs, Pa.

"Henderson's Sample of Alfalfa, I am glad to say, stood at the head of twelve other samples sent by me to the Government for analysis. Kindly ship to me at Wilcox Wharf, James River, Va., enough to seed sixty acres."

E. A. SAUNDERS, Jr., Richmond, Va.

"The enclosed picture was taken just before the fourth cutting of my field of Henderson's Alfalfa totalling 11 feet for the year. For three years the growth has equalled and even exceeded this picture."

S. FRANCISCO,
Fairfield Dairy Co., N. J.

"I saved four and one-half tons barn cured Alfalfa hay the first season, last year four tons. Would have saved five tons but for long spring drought."

EDWIN EARLE,
Canaan Farm, Esmont, Va.

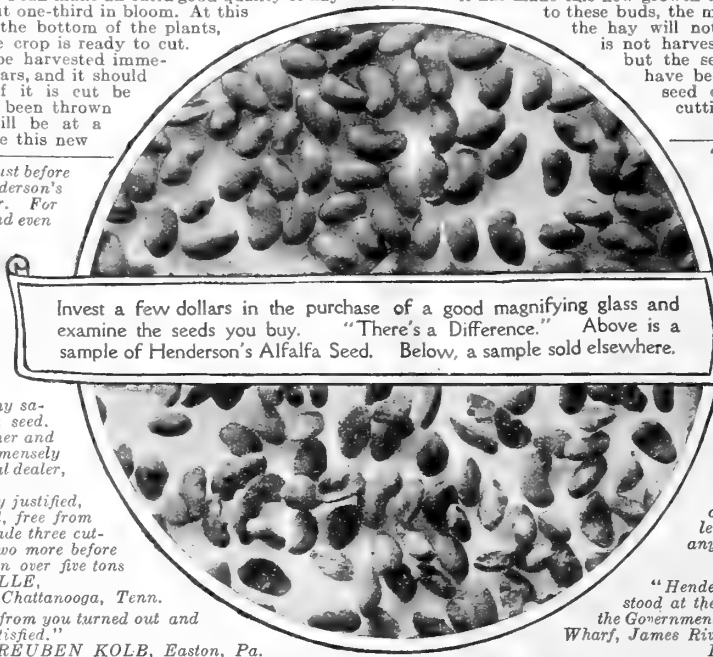
"I desire at this time to express my satisfaction with your selected Alfalfa seed. I ordered 30 lbs. from you last summer and when it arrived I saw that it was immensely superior to some that I bought of a local dealer, that I would not even plant the latter."

"My faith in your seed was amply justified, as I procured a PERFECT stand, free from weeds, dodder, etc. I have already made three cuttings this year, and expect to make two more before the season is over. I shall gather in over five tons of perfect hay."

S. J. McCALLE,
Missionary Ridge, Chattanooga, Tenn.

"The re-cleaned Alfalfa Seed I got from you turned out and grew very well indeed. I am well satisfied."

REUBEN KOLB, Easton, Pa.



Full cultural instructions will be found in our booklet "Alfalfa on Northern Farms," sent free to all applicants

ANNOUNCEMENT

Since the part of our Manual of Everything for the Garden for 1918 devoted to Farm Seeds went to the printer early in November, 1917, prices of Field, Fodder and Ensilage Corn have advanced considerably. This advance is due to the great difficulty experienced in getting seed showing good germination, because of the serious damage sustained by the crops from an early frost, last fall.

Notwithstanding the general scarcity of good seed, we have secured stocks, which though limited in quantity are excellent in quality, and of good germination. We would advise our customers to order early, because of short supplies, and possible delays due to overtaken transportation facilities.

HENDERSON'S EUREKA YELLOW DENT CORN

Large, Handsome Ears, 12 to 15 Inches Long, Weighing 1 to 2 Pounds Each. Heavy Yielder; 150 Bushels Shelled Corn per acre Not Unusual

This is one of the finest and most productive field Corns grown: it is a tremendous yielder—150 bushels of shelled Corn per acre is not unusual. The average yield of Corn per acre, as shown by U. S. statistics is 26 bushels. The cost of growing an acre of Corn yielding only 26 bushels, is just the same as for growing an acre of Henderson's Eureka or Long's Champion, yielding 100 bushels. The plants grow 12 to 15 feet high, a large proportion of them bearing two immense ears to the stalk; the ears are very handsome averaging 12 to 15 inches long, with small red cob covered full, and over both butt and tip ends, with 18 to 22 even rows of large, deep grain of a rich orange-yellow color. It is fairly early for so large a Dent Corn, but, of course, does not mature as quickly as the small early Dent and Flint varieties, but where 105 to 110 days of "Corn weather" are assured, it is the Corn to grow. For ensilage or fodder, cured or green, Henderson's Eureka can be safely planted even in Northern States and is not equalled by any other Corn grown, being of leafy, luxuriant growth, with large ears, when only half grown, thus giving a great quantity of fodder per acre. Corn planted in hills requires 8 to 10 quarts per acre. (See engraving, also colored plate on back cover of this catalogue.)

Price, 35c. per qt.; \$2.25 per peck; \$8.50 per bushel; 10 bushels and upward, \$8.40 per bushel.

EXPERIENCES OF PRACTICAL PLANTERS

"My crop of Henderson's Eureka was considered the finest crop of Corn in the New Brunswick, N. J., district, and I was complimented many times. The stalks stood 10 to 11 feet high, and were loaded down with golden ears from 12 to 13 inches long and very thick. I believe my success will induce my neighbors to plant 'Eureka' also next spring."

W. F. QUADE, Lilac Terrace, New Brunswick, N. J.

"We have filled a 64-ton silo from less than 4 acres of Henderson's Eureka Dent Corn."

J. W. CHAFEE, Sheshequin, Pa.

"I have the prize Corn of the town with Henderson's Eureka Yellow Dent. The average height of the stalks was 14 feet, some being 16 feet. The ears too are immense."

GUS. BISSINGER, Fifth Ave. Hotel, Rockaway Park, L. I.

"The Eureka Corn that I got from you last spring is certainly remarkable about 15 ft. high and the ears 1 foot long. The farmers from my section are coming to look at it, and they advise me to show it at Grahamsville Fair which opens October 5th, next week."

S. THOMAS, Fallsburgh, N. Y.

"My field of Henderson's Eureka Field Corn (seed purchased from you) is the finest sight I have ever seen in the way of corn, and every one asks where I got the seed."

A. B. LEES, Madison, Conn.

WOOD'S EARLY NORTHERN WHITE DENT CORN

THE CLIMAX OF 40 YEARS' SELECTION

Extraordinary Prolific Yields 110 Bushels Per Acre (shelled)

RIPENS THOROUGHLY SOUTH OF ALBANY AND BUFFALO

Large Ears 10 to 12 Inches Long, 7 to 8 Inches in Circumference. Borne 2 to 2 Feet From the Ground. Long Kernels, Small Cob.

Leafy, Luxuriant Plant. Making Fine Fodder.

While the raiser, Mr. James Wood, of Westchester, N.Y., ex-President of the New York State Agricultural Society, does not claim this to be a new variety, having originally been a white Southern Corn, yet by forty years of intelligent selection, it has become the earliest large white Dent Corn we know of and is quite distinct from the original parent. It will ripen in Connecticut, New York State (except in that portion north of Rochester and Troy), Southern Michigan, Southern Wisconsin, etc., and being vastly superior in every respect to the flint varieties and the small Dent Corns usually raised, will be by far the most profitable sort

HENDERSON'S "EUREKA" DENT CORN



in latitudes north of New York City, where the Eureka cannot safely be planted. Plant 8 to 10 quarts per acre if in hills. See colored illustration on back cover of this catalogue.

Price, 35c. per qt.; \$2.25 per peck; \$8.50 per bushel; 10-bushel lots, \$8.40 per bushel.

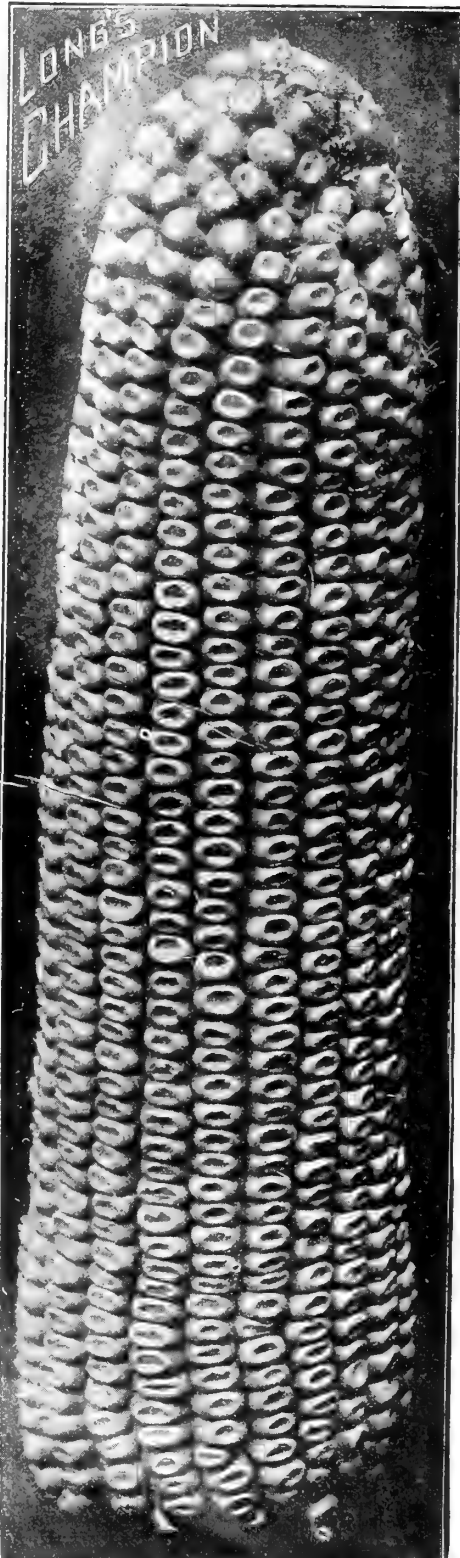
"I bought a bushel of Wood's Early Northern White Dent Corn the spring, which was planted at once. You should have seen it loaded down with great ears of Corn, and with stalks 15 feet high, by stopped to find out the name of the corn."

HERBERT L. BOLT, N. J.

IT PAYS TO PLANT SELECTED SEEDS, THEY PRODUCE MORE ON LESS ACREAGE

Long's Champion Yellow Dent Corn

Here is a corn that yielded 140 bushels shelled corn per acre and has yielded on average of 133 bushels per acre for the last 10 years on a breadth of 80 to 90 acres.



EARS WEIGH 2 to 2½ lbs. AT CRIBBING TIME
20 to 24 uniform rows of long, broad kernels

Long's Champion Yellow Dent Corn is the climax of 25 years of Corn breeding and selection by one of the most successful farmers in the Pennsylvania Corn belt.

Will mature in the latitude of New York if planted during the first week of May. Early planting is essential, even though there may be some risk of injury by the frost, which could be overcome on emergency by replanting. This King of Corns is without doubt the finest, the largest and the most productive Yellow Dent Corn ever produced, and will be found to be of great value to the farmer, especially in the Corn belt of the Middle and Eastern States, on account of its immense yield, at least 25% and often 50% more than can be obtained from the average old-type Corns generally planted.

It is a luxuriant grower, about 12 to 15 feet high, and in Lebanon County, Pa., has never failed to mature by September 20th when planted the first week of May. There is but a limited quantity of seed grown by the originator, which can be had through us. Price, \$2.25 per peck; \$8.50 per bushel; 10-bushel lots, \$8.40 per bushel. (See engraving; also colored illustration on back cover of this catalogue.)

"I send you a photo showing a crop of Long's Champion Corn from your seed. From less than two acres I filled a silo 10x26 feet. The Corn averaged 14 feet high and was well eared."

L. A. TERWILLIGER, Chenango Forks, Broome Co., N. Y.
"I wish to speak of your Long's Champion Yellow Dent Corn. It was simply great."

F. N. COLBERG, Cannon Falls, Minn.
"Last year I bought of you one peck of Long's Champion Yellow Dent Corn and my experience with it leads me to say that it more than warrants all you claim for it." Mr. E. A. PALMER, Stockton, N. J.

OTHER VARIETIES OF DENT CORN

Plant 8 to 10 quarts per acre if in hills. Broadcast 2 bushels per acre.

From all the varieties offered below, in lots of 10 bushels and upward, deduct 10c. per bushel.

QUEEN OF THE PRAIRIE. (*Pride of the North*.) This variety is valuable to grow North as it matures early. Planted as late as July 4th, it has fully matured by October 1st. The ears grow 8 to 10 inches in length, from 14 to 16 rows, slightly tapering. The kernels are closely set together on the cob, light orange in color and make excellent meal. Price, 30c. per qt.; \$2.15 per peck; \$8.00 per bushel.

LEAMING. Ears are of good size, set low down, and nearly always grow two to each stalk. Very small, red cob, with a deep, long grain, of a rich golden color. It matures early, and if planted not later than the first of June, will generally ripen, and be fit to husk and crib early in September. Price, 30c. per qt.; \$2.15 per peck; \$8.00 per bushel.

WHITE CAP YELLOW. An early variety, said to produce better results on poor, thin or sandy soil than any other variety, and is less affected by drought. The grain is handsome yellow in color, with white tips. Price, 30c. per qt.; \$2.15 per peck; \$8.00 per bushel.

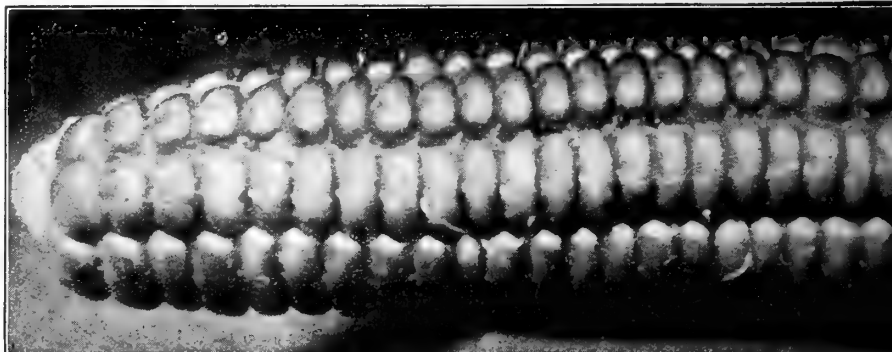
HICKORY KING. Has the largest grains with the smallest cob of any white Corn. The stalks of strong, vigorous growth, generally bear two good ears each. It is not, however, considered a safe crop north of Philadelphia. Will make more shelled Corn to a given bulk of ears than any other variety. Price, 30c. per qt.; \$2.15 per peck; \$8.00 per bushel.

EXTRA EARLY HURON. As early as most of the Flint Corns, and may be grown even in the most Northern States and in Canada. The grain is somewhat narrow, but long and deep, with small cob. Price, 30c. per qt.; \$2.15 per peck; \$8.00 per bushel.

EARLY MASTODON. (*The Earliest Large Dent Corn*.) Produces large ears for an early variety. It grows strong at a medium height, with broad, heavy leaves, and makes a fine shelled Corn in appearance, being purely Dent. Price, 30c. per qt.; \$2.15 per peck; \$8.00 per bushel.

GOLDEN BEAUTY. This Corn has given great satisfaction. It is exceedingly productive; a large proportion of the stalks produce two fine ears. The ears are of perfect shape, with from ten to fourteen rows, and filled out to the extreme end of cob. The cobs are unusually small. The richness of color and fine quality of grain make it very superior for grinding into meal. Price, 35c. per qt.; \$2.25 per peck; \$8.50 per bushel.

EARLY BUTLER. A cross from *Pride of the North*. It has the smallest cob of any Dent Corn in cultivation. It is also the very earliest Dent Corn and is very profitable to grow. It is just the Dent Corn for Northern farmers—grows quick and strong, and has small cobs, very long grains, and good-sized ears. Price, 30c. per qt.; \$2.15 per peck; \$8.00 per bushel.



GET THE GREATEST POSSIBLE PROFIT FROM YOUR LAND BY SOWING SELECTED SEED

A NEW FLINT CORN Allison's Twelve-Rowed White Flint Corn

OFFERED FOR THE FIRST TIME THIS YEAR

This corn has been grown and selected on the Knapp Farm, Rockland County, N. Y., for a number of years. It is a great improvement on the Eight-Rowed White Flint, the ears measuring from 12 to 15 inches in length and are invariably Twelve-Rowed. They are well covered with smooth broad rich ivory colored kernels from butt to tip. The stalks under good cultivation grow to an average height of 10 feet and are very leafy, making excellent fodder. The yield is from 80 to 100 bushels of shelled corn per acre.

Wherever a large eared Dent sort fails to ripen we would recommend planting Allison's Twelve-Rowed White Flint Corn. It requires a little longer to mature than the Eight-Rowed Flint varieties because the size of the ear and yield of grain is much larger. Allison's Twelve-Rowed White Flint will produce from 80 to 90 bushels of shelled corn per acre.

There has been but a limited quantity of seed grown by the originator, for sale, and it cannot be offered by any other seedsman or dealer.

Price, 40c. per qt.;
\$2.35 per peck;
\$8.75 per bush;
10-bush. lots
at \$8.65
per bu.

Extra Early Yellow Flint Corn

ONE OF THE BEST RE-
CENT INTRODUCTIONS

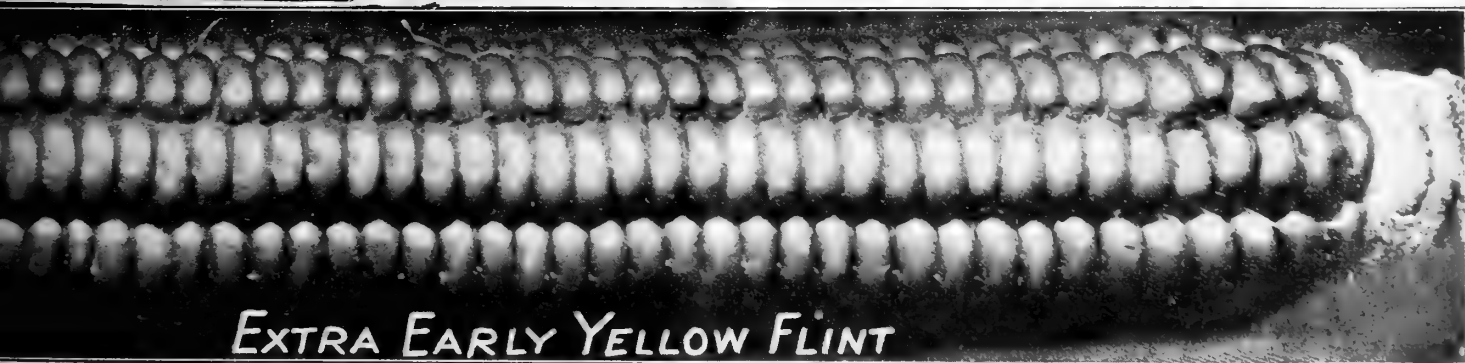
Yields 75 to 85 Bushels of Shelled Corn Per
Acre. Can be Shelled and Ground Earlier than
Any Other Variety

This is a valuable addition to the Flint varieties of Field Corn. It is the earliest variety in existence and especially adapted to Northern conditions (cool nights and short summers) and under favorable conditions the yield is immense. The ears are eight-rowed, remarkably long, frequently measuring 15 inches and over, of a rich amber color, thickly set with large broad kernels. The stalks are of medium height.

In ordinary seasons it will mature in ninety days, and can be shelled and ground for feed earlier than any other large-yielding variety. It is especially valuable in sections where Corn cannot be planted before the middle of June. With good cultivation Extra Early Yellow Flint will yield 75 bushels of shelled Corn per acre. Considering that it is an eight-rowed early sort this is an excellent yield. Specially recommended for planting in northern New York, Connecticut and Massachusetts. (See engraving; also colored illustration on back of catalogue.)

Price, 35c. per qt.; \$2.25 per peck; \$8.50 bushel; 10 bushels at \$8.40.

"Last year I purchased from you Extra Early Yellow Flint Corn. It proved to be all you claim and more. People who saw the fields said they were the finest they had ever seen."
CLAUD H. HAYES, Wolcott, N. Y.



PRICES OF FARM SEEDS ARE SUBJECT TO CHANGE WITHOUT NOTICE

IMPROVED
EARLY HORSETOOTH

HALL'S GOLDEN NUGGET. The kernels are the largest of all of the Flint varieties, ears from 9 to 12 inches long, eight-rowed, owing to the large size of the grain the ears are nearly twice the circumference of the ordinary eight-rowed corn. The stalks are from 7 to 9 feet high, it is medium early, maturing in about 90 days. 30c. qt.; \$2.15 peck; \$8.00 bushel.

CORN FOR FODDER AND ENSILAGE

EVERGREEN SWEET FODDER CORN. Fodder grown from the Evergreen Sweet Corn is superior in quality to that of the ordinary field varieties, being richer, sweeter and more digestible. The best plan is to sow in rows 24 to 30 inches apart, using one bushel of corn per acre. \$2.35 peck; \$8.75 bushel.

SWEET FODDER CORN. Best for cutting and feeding green during the summer months. This is better than any field corn, from the fact that it is so very sweet and nutritious that cattle will eat every part of the stalk and leaves with relish. Drill thickly, in rows three feet apart, using 1½ bushels of seed per acre. \$2.15 peck; \$8.00 bushel.

SOUTHERN HORSE TOOTH. Grows to a large size, is very leafy and well adapted for ensilage. Large quantities of this corn are sold by feed and other stores which usually result in disappointment to the farmer. There is no corn more difficult to cure or keep properly, and much of it is kiln-dried, while large quantities have been stored in elevators and gone through a sweating process which has destroyed the germ. The stock we offer is carefully selected and sun-dried and of high germination. \$8.00 bushel; 10 bushels and upwards, \$7.90 bushel.

IMPROVED EARLY HORSE TOOTH. Being nearly two weeks earlier, this variety is better adapted for fodder and ensilage in the Northern States than the ordinary Southern Horse Tooth. (See engraving.) \$8.50 bushel; 10 bushels and upwards, \$8.40 bushel.

RURAL THOROUGHbred WHITE FLINT. An early variety, valuable for the Northern States. Owing to its suckering and branching habit, it yields enormously. \$8.00 bushel; 10 bushels and upward, \$7.90 bushel.

SUGAR CANE AND BROOM CORN

SUGAR CANE, Early Amber. Of great value for cutting green and feeding green during hot weather in summer, when pastures are apt to be burned up. Being a tropical plant, it makes its best growth during just such weather, and cattle, horses and sheep relish it, and it may be fed to them with safety. Sow in drills, 10 to 12 lbs. per acre; broadcast, 20 to 25 lbs. per acre. Should be cut when about 2 feet high, and will yield several such cuttings. Earlier than the Orange and may be grown even in Northern States. Cured in the same way as a heavy crop of Clover, it makes an excellent quality of hay. (See engraving.) 16c. lb.; 100 lbs., \$12.00.

SUGAR CANE, Early Orange. Produces a larger and heavier growth than the Amber but is later. 16c. lb.; 100 lbs., \$12.00.

BROOM CORN, Evergreen. Entirely free from all crooked brush, and remains strictly green, consequently always commands the highest market price. 15c. lb.; 100 lbs., \$12.00.

POP CORN

WHITE PEARL. Smooth-grained ears, 4 to 5 inches long, by ¾ to 1 ¼ inches diameter, good for either family or market use. 10c. lb.; 100 lbs., \$8.00.

AMBER PEARL. A new and distinct shade of color; it matures very early and is in every respect a first-class Pop Corn. 15c. lb.; 100 lbs., \$12.00.

WHITE RICE. (Rat Tooth.) A very fine white variety, ears 4 to 5 inches in length, and 1 to 1 ½ in. diameter. Kernel pointed. Especially salable among the retail grocers. 10c. lb.; 100 lbs., \$8.00.

FLINT CORN—Continued

In Lots of 10 Bushels and Upwards Deduct
10c. Per Bushel

LONGFELLOW. A large 8-rowed Yellow Flint variety well adapted for the Northern States. The ears are long, some of them measuring 15 inches, and oftentimes two or more good specimens grow on one stalk. Grain large and broad and yellow. The cob is quite small. It is the largest variety of Yellow Field Corn safe to plant in the latitude of Massachusetts, where it is quite extensively grown. Price, 30c. qt.; \$2.15 peck; \$8.00 bushel.

RURAL THOROUGHbred WHITE FLINT. In appearance this closely resembles the old White Flint, but the plant branches and suckers more, and is therefore valuable for ensilage in the Northern States, as well as for the grain. Price, 30c. qt.; \$2.15 peck; \$8.00 bushel.

COMPTON'S EARLY. The earliest known Yellow Flint variety, ripening in from 76 to 85 days. It is a handsome 10 and 12-rowed sort; very productive, and will ripen in the Northern States. Price, 30c. qt.; \$2.15 peck; \$8.00 bushel.

LARGE WHITE FLINT. Handsome ears, large and well filled kernels, white and of fine quality. Price, 30c. qt.; \$2.15 peck; \$8.00 bushel.

LARGE YELLOW FLINT. (Early Canada Yellow). Similar to the above excepting in color; largely grown in the extreme North. Price, 30c. qt.; \$2.15 peck; \$8.00 bushel.

KING PHILIP. Coppery-red. Very early. Usually matures three months after planting. Ears large sized and handsome, 10 to 12 inches long. Price, 30c. qt.; \$2.15 peck; \$8.00 bushel.



EARLY AMBER SUGAR CANE.

PRICES OF FARM SEEDS ARE SUBJECT TO CHANGE WITHOUT NOTICE

HENDERSON'S CLYDESDALE OATS

THE MOST POPULAR HIGH-GRADE
WHITE OAT IN THE UNITED STATES

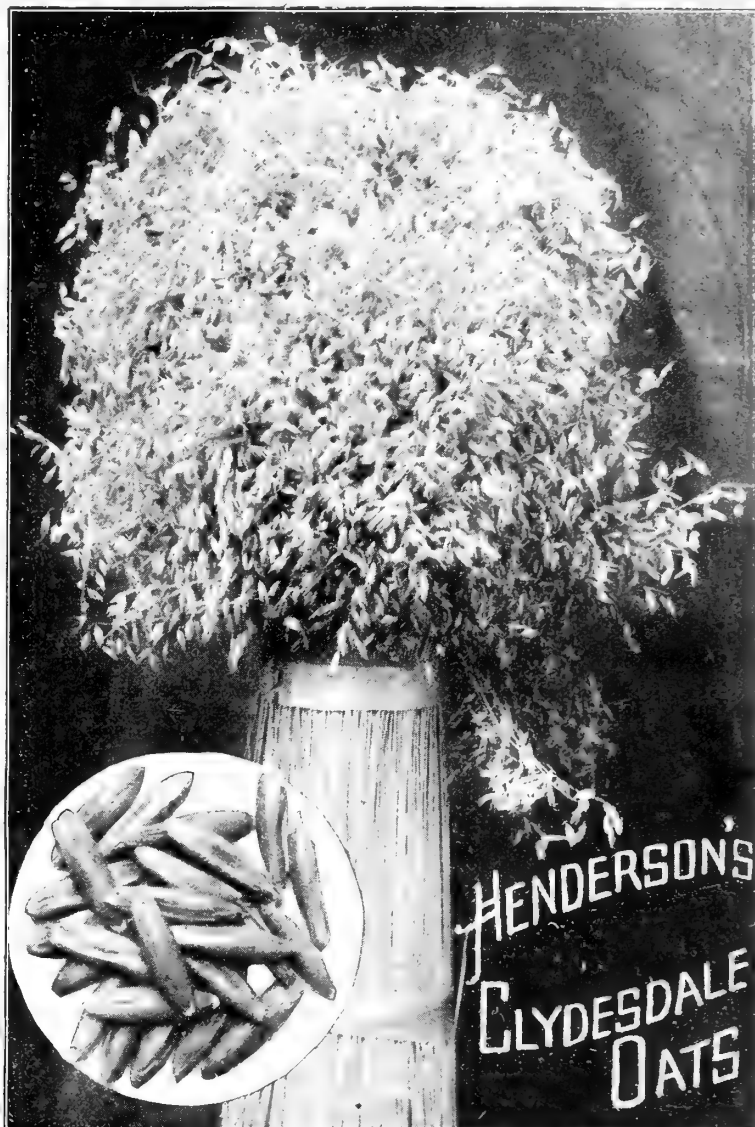
Early and Productive—Free from Disease

Since we introduced this Grand Oat it has steadily and deservedly gained in popularity, until today it is the most popular High-Grade White Oat in the United States.

The cost of growing an acre of Oats yielding 30 bushels per acre (the average yield) is exactly the same as growing an acre of Henderson's Clydesdale Oats yielding 80, 85 or 100 bushels per acre and the ultimate financial benefit accruing to the American farmers by the annual distribution of several thousand bushels of Henderson's Clydesdale Oats cannot be overestimated. These Oats weigh considerably more per measured bushel than any other variety, and they deteriorate in weight only from three to four lbs. each year they are grown here, so that the produce is worth for seed purposes at least double the market value of ordinary Oats.

No other Oat can show such a record—75 to 100 bushels per acre, and double the usual quantity of straw. Another most important advantage of Henderson's Clydesdale Oats to the farmer is the fact that they do not shell out in handling, and that they have been thoroughly cleaned by the latest and most improved machinery, and are absolutely free from foreign and weed seeds. Sow 3 bushels per acre. (See engraving; also colored plate on front cover.)

PRICE, Clydesdale Oats, per peck.....	\$0.90
Per Standard bushel of 32 lbs.....	3.00
10-bushel lots and upward, per bushel.....	2.90
100-bushel lots, per bushel.....	2.80



"Two years ago I bought some Henderson's Clydesdale Oats, and again last year, and was greatly pleased with them. Last year from seed secured from what we bought of you the year before, we raised 65 bushels to the acre, although the season was very dry and unfavorable." April 6th, 1917. EDWARD B. FRITZ, Marshall, Mich.

"In the spring of 1915 I purchased of you a number of bushels of Henderson's Clydesdale Oats. They proved to be wonderful oats; and last spring I sowed from the same seed. These oats are truly worth their name." G. ELPHICK, Ludlow, N. J. Jan. 25th, 1917.

"The Clydesdale Oats purchased of you two years ago were the best we ever grew and we have had great success with them." Sept. 7th, 1917. R. H. MULL, Philadelphia, Pa.

"I raised 1,183 bushels of Clydesdale Oats this year on 18 acres. They are a very fine quality, plump oat. I purchased 100 bushels of Clydesdale Oats from you three years ago and this is the result. They have been highly satisfactory. The straw on this crop of oats was more than four feet high and did not lodge to any extent, although we had many heavy storms in this section and many other Oats lodged badly." M. W. HICKS, Granville, N. J.

"I purchased from you last spring, 15 bushels Clydesdale Oats which I put on 4 1/2 acres and got 430 bushels of oats." CYRUS REIMER, 701 Sweetland, N. J.

"The Clydesdale Oats I bought of you last year were the best I planted 20 acres with your seed and the result was 1,100 bushels. I could buy in Richmond. The seed was the best I ever saw. I bought the two. The field from your Oats is the best I ever saw. They have grown higher and faster than any other Oats I have seen." F. H. MILES, Richmond, Va.

"My Clydesdale Oats were the grandest oats I have seen in my life." JAMES WILLIS

"I am very much pleased with the results of the seed I purchased 1 bushel and threshed 100 bushels." H. B. ADAMS, Wellsdale, N. Y.

PRICES OF FARM SEEDS ARE SUBJECT TO CHANGE WITHOUT NOTICE

HENDERSON'S SUPERIOR

Seed Oats

Continued

SWEDISH SELECT OATS. Scientific breeders of seeds in Sweden have devoted themselves particularly to the improvement of Oats, and many meritorious varieties have originated in that country. Probably the variety we offer, **Swedish Select** is the best all around Oat among them as it thrives well on all soils. It is a strong grower, a great drought resister and the grain is short, plump and heavy. They are strongly recommended by the United States Department of Agriculture and all our customers should try them. (See engraving.)

Price, 80c. peck; \$2.75 bushel (32 lbs.); 10 bushels and upward, \$2.65 bushel; 100 bushels and upward, \$2.50 bushel.

WHITE RUSSIAN OATS. Is a Side Oat somewhat coarse, but is much appreciated for its rugged hardness. It stools freely, has strong, stiff straw, heads large with plump grain. A heavy cropper.

Price, \$2.75 bushel (32 lbs.); 10 bushels and upward, \$2.65 bushel; 100 bushels and upward, \$2.50 bushel.



Swedish Select Oats

EARLY NEWMARKET OATS. A grand new breed of English pedigree Oats of wonderfully vigorous growth, producing very early a heavy crop of unusually large, plump Oats, remarkable for their thinness of husk, which greatly adds to their feeding value. The straw is tall and strong, withstanding unfavorable weather well, and is practically immune from rust. For quality, earliness, vitality and productiveness the Early Newmarket Oat is unsurpassed. (See engraving.)

Price, \$2.75 bushel (32 lbs.); 10 bushels and upward, \$2.65 bushel; 100 bushels and upward, \$2.50 bushel.

PROBSTEIER OATS. A leading white variety. It is very productive and heavy, and straw very strong. It is of Scandinavian origin, but well adapted to this climate; it ripens two or three days later than many varieties.

Price, \$2.75 bushel (32 lbs.); 10 bushels and upward, \$2.65 bushel; 100 bushels and upward, \$2.50 bushel.

BLACK TARTARIAN OATS. A Side Oat and the most prolific and distinct variety of Black Oat grown. Its ear is carried all on one side; it is very early, long and strong-strawed, and bears a short, plump grain.

Price, \$3.00 bushel (32 lbs.); 10 bushels and upward, \$2.90 bushel.

WINTER or TURF OATS

WINTER or TURF OATS are quite extensively grown in the Southern States, where they are in high favor. Sown in the fall they either afford excellent pasturage during the winter or give abundant yield the following season. The demand for Oats of this character has been gradually extending northward, and to meet it we have been growing in Northern Pennsylvania, for several years, an acclimatized strain which is remarkably hardy and will stand the winter as far north as New Jersey. They are incomparably superior to the Winter or Turf Oats of Virginia; they stool out strongly, are earlier, more vigorous and less susceptible to rust; they have stiff straw, stand up well, and are much more productive than Spring Oats. Sow in September, at the rate $1\frac{1}{2}$ bushels per acre, and sow deep. They will stand much more severe weather when planted four inches deep than near the surface.

Price, 80c. peck; \$2.75 bushel (32 lbs.); 10 bushels and upward, \$2.65 bushel.



Early Newmarket Oats

Henderson's Superior Seeds are Procurable Only From Us Direct—We Do Not Supply Through Dealers

LONG'S WHITE TARTAR OATS THE IDEAL SIDE OAT FOR THE AMERICAN FARMER.

This grand Side Oat, imported by us in 1901 and grown for us by Mr. I. S. Long, a prosperous, scientific farmer of Lebanon County, Pa.—in compliment to whom it was named—has proven remarkably adapted to American climates and conditions, more than fulfilling our anticipations when introduced. Reports from those who grow it—covering many sections of the country—fully verify our first praise and statements regarding this variety and indicate that it holds up well in size, weight and yield, year after year, even in sections where other varieties rapidly deteriorate. The past season was a very favorable one for all grain crops; it has maintained its reputation as the earliest, heaviest and most prolific Oat in cultivation. It is suitable for all soils, of robust and vigorous constitution, is remarkably early and an immense cropper; the straw, usually 4 to 5 feet in length, is stout, stands up well and does not readily lodge or twist. The heads are very long, measuring from 8 to 10½ inches, and the kernels are of immense size, thick, plump and heavy. It has proven its superiority, and is undoubtedly the heaviest cropping domestic white Oat ever offered. Planted alongside some of the older varieties, it usually yields more than double the number of bushels per acre of any of the other sorts: 100 bushels per acre may be expected of it under fair conditions. A field of this Oat in any farming community invariably attracts the attention, admiration and envy of neighboring farmers.

Its extreme earliness, great length and strength of straw, thick, plump grains and the heavy yields it is capable of producing give Long's White Tartar all the necessary qualifications which go to make an ideal Oat. Sow 3 bushels per acre. (See engraving.)

PRICE, Long's White Tartar Oats, per peck.....	\$0.80
Per Standard bushel of 32 lbs.....	2.75
10-bushel lots and upward, per bushel.....	2.65
100-bushel lots, per bushel.....	2.50

WHAT PROGRESSIVE FARMERS THINK:

"Last February I obtained from you 80 bushels of your Long's White Tartar Oats. The results were so satisfactory, that I am going to plant the same again this season. Please quote price on 50 bushels."

J. HEMSLEY JOHNSON, 623 Equitable Bldg., Baltimore, Md.

"The Long's White Tartar Oats I got from you were great. They have also given good results, but I have always wanted to try the Clydesdales. The fact is I have never had an unsatisfactory crop of any kind on my farm when I used Henderson's seeds."

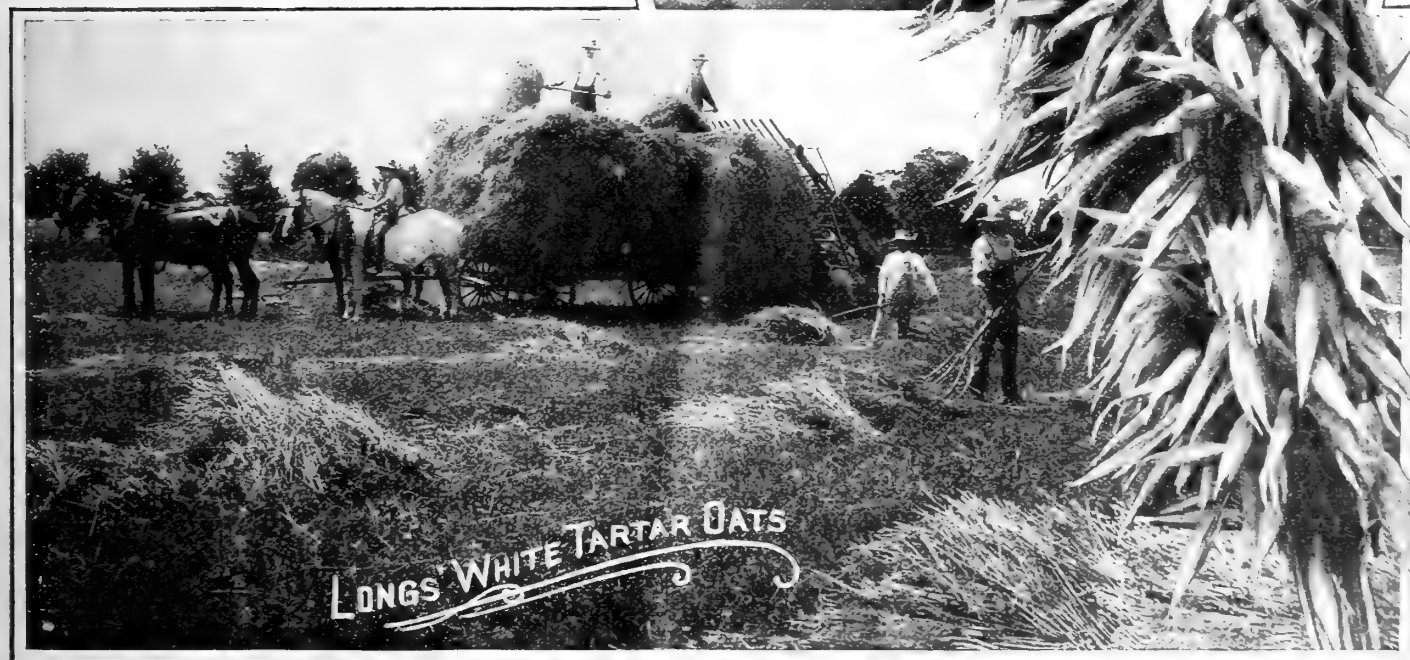
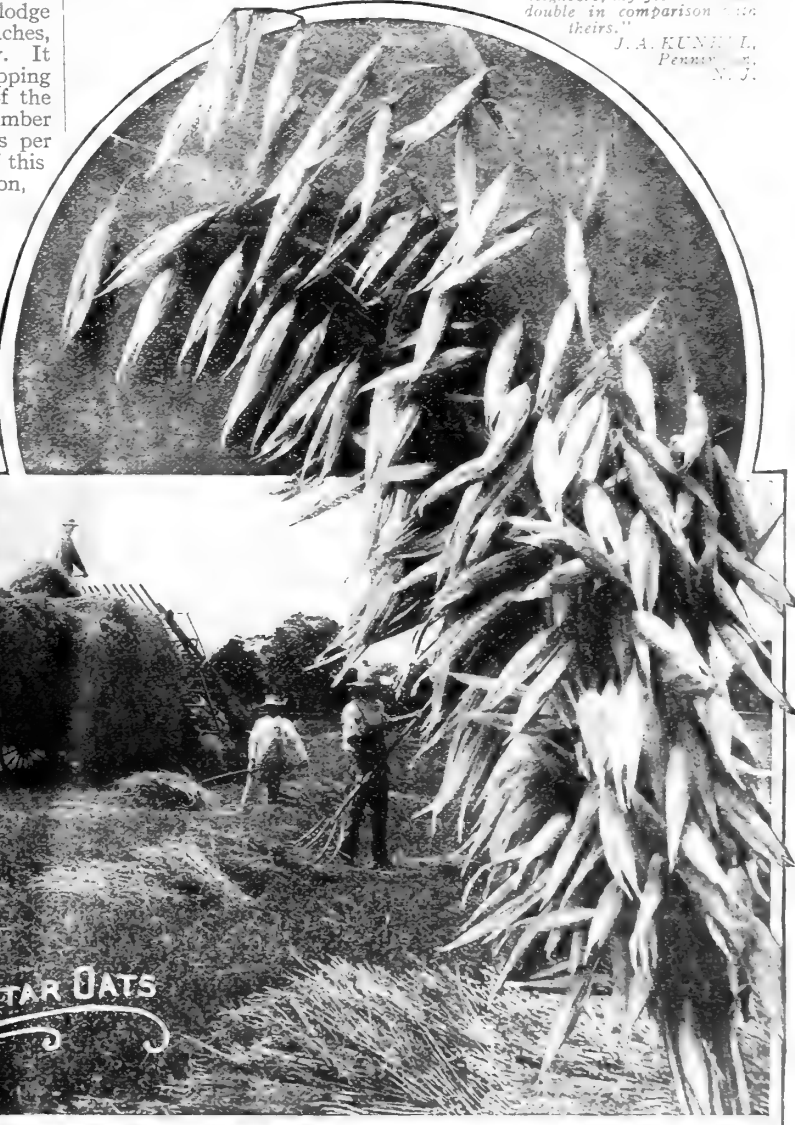
A. B. HARWOOD, Baldwinsville, N. Y.

"Long's White Tartar Oats are very fine. Yield 82 bushels 11 lbs. per acre. I purchased the seed from you two years ago."

R. S. CLARK, Maple Shade, Dillsburg, Pa.

"About ten years ago I began sowing your famous Long's White Tartar Oats and ever since then I have averaged a crop yield ranging from 50 to 70 bushels per acre, weighing from the machine 36 to 38 lbs. per bushel; as compared with my neighbors, my yield has been double in comparison with theirs."

J. A. KUNDEL, Pennsboro, N. J.



TRUE WHITE TARTARIAN or STORM KING OATS

We have pleasure recommending this true White Tartarian or Side Oat. It is a heavy cropper; the grain is short, plump, thin skinned and of the highest feeding value. The straw as its name implies is very strong and stiff, enabling it to resist the severest weather. The average weight of the grain per measured bushel is 46 lbs. For several years we have distributed a limited quantity of Storm King Oats which has proven highly satisfactory. The repeated successful

trials warrant us cataloging and recommending it. We advise every grower of Oats to try this variety. Sow 3 bushels per acre.

Price, Storm King Oats, per peck.....	\$0.90
Per Standard bushel of 32 lbs.....	3.00
10-bushel lots and upward, per bushel.....	2.90
100-bushel lots, per bushel.....	2.80

Henderson's Superior Seeds are Procurable Only From Us Direct—We Do Not Supply Through Dealers

HENDERSON'S
SUPERIOR

SPRING SEED WHEAT

IS GROWN FROM
PEDIGREED STRAINS

HENDERSON'S SUPERIOR SEED WHEAT is not only grown especially for seed purposes from choicest selected cross-bred and pedigree strains, but it is all re-cleaned at our warehouses (750,000 bushels capacity), which are equipped with the most modern seed-cleaning machinery in America. This enables us to supply direct to the farmer plump and heavy seed, of undoubted superiority, at lowest possible prices, where quality is considered. Often through pressure of other work, the seeding of Winter Wheat is neglected until too late and is either not sown at all or results in failure. With the two varieties of Spring Wheat here offered, this difficulty can be overcome by Spring sowing. They are the best of the Spring Wheats, yield well, and the milling quality of the grain surpasses even the best of the Winter varieties. Spring Wheat is also a satisfactory crop to sow along with Grass seed.

The prices herein named are those ruling at this date (February, 1918) for the crop of 1917 but they are subject to market fluctuations. Delivery f. o. b. New York, bags extra. Special quotations to large buyers.

MARQUIS—Spring Wheat

The Earliest The Most Productive
The Highest in Quality

This famous variety is of Canadian origin and was bred by crossing Red Fife and Hard Calcutta, an acclimated Wheat from India. It retains the frost-resisting qualities of Red Fife and also the extreme earliness of Hard Calcutta. It attracted great attention in America at the New York Grain Exposition in 1911, when it was awarded the \$1,000 prize given by Sir Thomas Shaughnessy for the best Wheat in America. Marquis Wheat is almost ten days earlier than any other variety and matures—as several farmers put it—in time to avoid rust, smut, or drought. As to productiveness many growers report 52 and more bushels per acre, but a five year average at Brandon Experiment Station was found to be 44 bushels per acre. Milling tests show that this Wheat contains a greater quantity of gluten, is a better color, shows greater absorption, and is heavier in weight per bushel than any other Spring Wheat. Our stock was raised in the far North, and is early, hardy and productive. We strongly recommend our customers to try Marquis Wheat this year. (See engraving).

Price, bushel (60 lbs.), \$5.00; 10-bushel lots @ \$4.90.

MARQUIS WHEAT IN NEW YORK STATE

"We sowed the Marquis Wheat which we purchased from you last year, rather late in May. This Wheat was sown on clay loam and did not receive any special attention, except that the soil was put in a good state of cultivation at the time of seeding. The field of 40 acres yielded 49½ bushels per acre, of good plump grain, measured when it was thoroughly dry."

C. E. HAMILTON,
Mgr. Heart's Delight
Farm,
Chazy, Clinton Co., N. Y.



Marquis
Wheat

PEDIGREED BLUE STEM SPRING WHEAT

A Good Variety to Sow Along with Pasture Grasses

Pedigreed Blue Stem is quite distinct from all other Spring Wheats, having when green a pronounced blue bloom on it, hence the name. When ripe the straw is a beautiful golden yellow color. This variety is remarkably free from rust, is very productive, has a hard kernel and there is a total absence of beard. Its milling qualities are of the best.

Price, bushel (60 lbs.), \$5.00; 10-bushel lots @ \$4.90.

HENDERSON'S SUPERIOR WINTER SEED WHEAT

For illustrations and descriptions of varieties see "Henderson's Fall Wheat Circular" issued in September. We offer the following varieties:

Jones' St. Louis Grand Prize	Jones' Red Wave
Clawson Longberry	Early Red Chief
Silver Sheaf Longberry Red	Rural New Yorker
Pride of Genesee	Gold Coin, etc., etc.

We can also take orders now for delivery from the harvest of 1917 at prices ruling at time of shipment.

WE MAKE SPECIAL PRICES TO BUYERS OF WHEAT IN LARGE QUANTITIES. WRITE US

BARLEY

Should be grown more than it is. The straw makes excellent rough feed for all kinds of stock. It is also one of the best grains with which to sow down to grass in spring. Barley meal is also a good food for all domestic animals and nearly equals Corn in feeding value. To produce large crops of Barley, the soil should be well prepared to receive the seed. It should be made fine, firm and fertile.

Barley is a good crop to follow Corn grown on Clover sod, as the land is then in prime condition. Harrow and roll well after seeding. The crop should be harvested before it is too ripe, if a bright white berry is wanted. Sow $2\frac{1}{2}$ bushels per acre broadcast and $1\frac{1}{2}$ to 2 bushels per acre if drilled.

BEARDLESS BARLEY

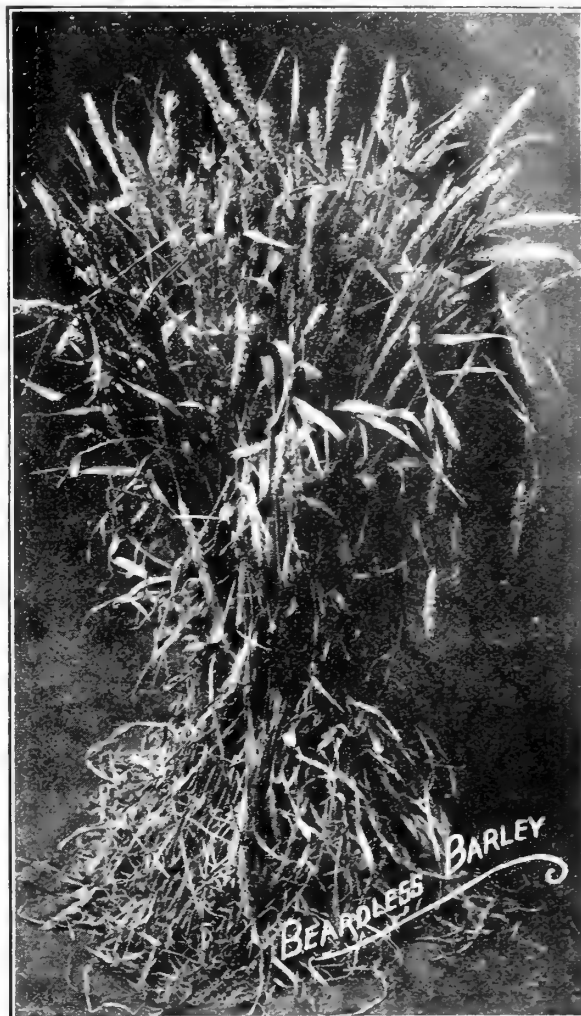
Beardless Barley is remarkable for its great productiveness; it having been conclusively shown during the past few years, that it is far and away above all others in that respect. Also for the entire absence of the troublesome beard common to all other varieties except the Improved White Hulless.

Although it makes a good grain crop, it is of the greatest value, as a quick growing and nutritious forage crop, either to feed green or cured as hay. If cured as hay it should be cut when the grain is in the milk.

For fattening hogs or feeding to live stock generally, it is particularly good, and also much safer owing to the absence of beard. Many young animals have been choked by feeding them the bearded Barleys. Beardless Barley is also preferred by many brewers for malting purposes. Sow $1\frac{1}{4}$ to 2 bushels per acre. (See engraving.) Price, 90c. per peck; \$3.00 per bushel of 48 lbs.; 10 bushels, \$2.90.

IMPROVED WHITE HULLESS. A valuable new variety, which should be sown at the rate of $1\frac{1}{2}$ bushels per acre about the time of sowing Oats. It is two or three weeks earlier than ordinary Barley, grows about the same height, and will not shatter in the field, even when very ripe. The grain is not unlike Wheat, and weighs about 60 lbs. per bushel, instead of 48 lbs. as other Barley. For feeding to horses and hogs, when ground, it is unequalled, and is also exceedingly valuable as hay, if cut and cured just before ripening. Price \$1.50 per peck; \$5.00 per bushel of 48 lbs.; 10-bushel lots, \$4.90 per bushel.

VERMONT CHAMPION. This is a two-rowed variety which is much esteemed by northern farmers. It is quite early, extremely hardy, and very prolific. The heads are longer than the six-rowed varieties, and the berries are larger. It always fetches a high price, on account of its good appearance; and its malting qualities are excellent. Price, 90c. per peck; \$3.00 per bushel of 48 lbs.; 10-bushel lots, \$2.90 per bushel.



HENDERSON'S SELECTED RYE The Hardest and Earliest Grain Crop Grown

Rye is a valuable crop for either soiling, green fodder, straw or grain. It is largely used by farmers to seed down with in the fall, and is considered preferable to Wheat for this purpose, as it protects the young grass and matures two weeks earlier in the summer than Wheat. It is also extensively used for fall pasture when sown early and for cutting green in late spring and early summer, but when wanted for cutting it is best sown with the Sand or Winter Vetch. (Described on page 34.)

On light sandy soils where other cereal crops would be a failure, rye

can be depended upon to produce fair returns. Because of its great hardness and ability to grow upon poor land, rye is the best crop to plow under to increase the humus in the soil; but this must be done early in the spring before the rye has made much growth, otherwise it would exhaust the moisture in the soil, to the detriment of succeeding crops. A field of rye which has made good growth in the fall is often pastured with cattle or sheep for a time, and also in the spring moderately. The stock is then removed and the rye allowed to ripen. Rye

is the only cereal crop, which may be thus treated without great injury. Sow (if alone) from $1\frac{1}{2}$ bushels to $2\frac{1}{2}$ bushels per acre.

HENDERSON'S SELECTED SPRING RYE

A variety produced by planting Winter Rye in the spring for several years, and selecting the seed until the type was fixed. It is an excellent "catch crop" where fall-sown grain has been winter-killed, and also for fodder and grain. Price, \$4.50 per bushel of 50 lbs.; 10-bushel lots, \$4.40 per bushel.

WINTER RYE

For winter varieties see our Fall Wheat and Grain Circular issued post free in September. We offer the following varieties: Henderson's New Invincible—Giant Winter Thousandfold Winter Excelsior Winter—and Winter.

We can take orders at any time at prices ruling at time of shipment.



HENDERSON'S SELECTED SPRING RYE



HENDERSON'S
JAPANESE BUCKWHEAT

ANDROPOGON SORGHUM VAR. KAFFIR CORN A NON-SACCHARINE SORGHUM OF VALUE FOR FODDER AND GRAIN

Kaffir Corn is a valuable forage plant, growing $4\frac{1}{2}$ to 6 feet high; it is stocky, erect, and produces wide, luxuriant, succulent foliage, making excellent fodder, either green or dried, and is highly relished by all kinds of stock. Each stalk produces from 2 to 4 heads of grain. These heads are long and narrow. Kaffir Corn has the quality common to all Sorghums, of resisting droughts, and in this fact is to be found its peculiar value, especially in Southern and Western sections; it has yielded paying crops of grain and forage even in seasons so dry that Corn utterly failed. The culture is the same as for Field Corn, and when sown alone Kaffir Corn should be broadcasted at the rate of from $\frac{3}{4}$ to 1 bushel per acre. When raised for forage it should be cut before heading out. For grain sow in rows 3 feet apart using 3 to 5 lbs. of seed to the acre. In many sections Kaffir Corn is sown broadcast with Cow Peas, using a peck of Kaffir Corn to a bushel of Cow Peas. It then acts as a support to the Peas which produce a much larger crop when grown in this way. They can both be harvested together, the combination making an enormous crop of highly nourishing feed.

White Kaffir Corn

Grows 4 to 5 feet high, with numerous wide leaves. The grain crop is heavy being sometimes 50 to 60 bushels to the acre, and its nutritive value is almost as good as other cereals. A fine food for poultry. 14c. lb.; 100 lbs. \$10.00.

Rural Branching Doura

(MILLO MAIZE, SORGHUM VULGARE)

A wonderfully productive fodder plant that makes a great amount of foliage, and can be cut several times in the season. Plant 4 to 5 lbs. to the acre. 16c. lb.; 100 lbs. \$12.00.

Yellow Branching Doura

(YELLOW MILLO MAIZE)

Earlier than the Rural Branching, and of taller growth, often attaining a height of 9 to 12 feet, but it does not stool out quite as much from the ground, although it branches out from the joints. It produces an enormous quantity of fodder, for which stock show a marked partiality. Plant 4 lbs. to the acre. 16c. lb.; 100 lbs. \$12.00.

Jerusalem Corn

Grows about five feet high, and is one of the surest crops for dry countries and seasons, having in the driest season in the past 15 years in Kansas produced a crop, without irrigation, when other forage plants perished. Five pounds will plant an acre. 18c. lb.; 100 lbs. \$14.00.

Red Kaffir Corn

This very leafy and juicy variety is taller but more slender than the white, ripens a little earlier and yields heavier. It is also valuable for sowing on poor land, as it will give better results under these conditions than the White Kaffir Corn, as well as other Sorghums, most of which require a well-enriched soil. The stalks and leaves are juicy and brittle, unlike most of the other Sorghums and make very good fodder, which is greatly relished by cattle whether fed to them green or dry. The grain or seed is readily eaten by all live stock and poultry. (See engraving.) 14c. lb., 100 lbs. \$10.00. (For Sugar Cane and Broom Corn, see page 18.)

TEOSINTE (REANA LUXURIANS)

The plant resembles Corn, but is more leafy and tillers enormously. After cutting, it grows again with remarkable rapidity. Those having only a small amount of land on which it is desired to produce the maximum amount of forage should show Teosinte Plant in drills, 6 to 8 lbs. per acre. Price, 25c. $\frac{1}{4}$ lb.; 80c. lb.

HENDERSON'S JAPANESE BUCKWHEAT

(First introduced into the U. S. by Peter Henderson & Co.)

Since we introduced the Japanese Buckwheat nearly twenty years ago, the tendency, on account of the hot, dry summers in the United States, has been for the grain to gradually grow smaller. The seed we offer is grown from the largest type imported from Japan and is much larger in grain than that usually offered and it will pay all growers to renew their seed. Our seed is only one year removed from imported Japanese seed. This variety is now more generally grown than any other, but to those to whom it may still be unknown we would say that the kernels are at least twice the size of any other variety and of a shape peculiar and distinct from all others. The color of the kernels is also most distinct, being of a rich dark shade of brown. It ripens fully a week earlier than the Silver Hull, the straw is heavier and the yield is double or more. It branches more and does not need to be sown so thickly as the other kinds. There is always a good market for the grain as it is in demand for all purposes, and the export demand now being enormous. For bees it is of the greatest value and for this purpose has displaced all other varieties.

ALWAYS SOW WITH CRIMSON CLOVER

An excellent plan is to sow Crimson Clover along with Buckwheat, especially when put in late from middle of July to first of August. They come up together, but the Buckwheat is the stronger grower and the Crimson Clover makes but little showing until the Buckwheat is removed. If frost should kill the Buckwheat before ripe, it may be left as a protection, the dead Buckwheat being just the sort of mulching and protection needed by the Clover. The Crimson Clover and mulching of Buckwheat can be plowed under in May and for Potatoes or Corn there is no better preparation. Japanese Buckwheat is one of the most satisfactory crops to sow on new or rough land, but Buckwheat should invariably be sown as a second or catch crop, and we would advise all growers to sow Crimson Clover along with it as recommended above, for, even though the Buckwheat be killed by an early frost, the value of its own humus is worth more than the cost of the seed in addition to its value as a winter protection to the Clover. (See engraving.)

Price, \$4.00 bushel of 48 lbs.; 10-bushel lots, \$3.90 bushel.



RED
KAFFIR
CORN

PRICES OF FARM SEEDS ARE SUBJECT TO CHANGE WITHOUT NOTICE

MILLET

Millets are very valuable as dry weather, summer catch crops, supplementing other early summer maturing crops, and of value to succeed crops that fail, such as corn, etc. They are also one of the best crops for planting on newly broken land—and excellent for soil. May also be grown in place of summer fallow without detriment to succeeding crop, and will restore land foul with weeds, to good condition. May be profitably used in silage combinations, may be pastured—in fact being of special value for this purpose where grass pastures are exhausted or burned out. Millets, if cut in blossom, before they get too woody, make excellent hay—and therefore are of great value in seasons of short hay crops. Millet crops are less subject to the attacks of insects and fungous diseases than any other cereal.

JAPANESE MILLET

(*Panicum crus-galli major*)

Especially Valuable for the Northern and New England States
The Best Recent Introduction for the Silo and Cutting Green

Entirely distinct from any other Millet, grows tall and produces an enormous crop. It grows 6 to 8 feet high, stands remarkably well notwithstanding its great height, and yields from 10 to 12 tons green fodder per acre. When cured it makes an excellent quality of hay, and its feeding value is far superior to Corn fodder, and it is much relished by all kinds of stock, whether green or cured. If to be made into hay, cure as you would a heavy crop of Clover.

AN IDEAL ENSILAGE MIXTURE MAY BE COMPOSED OF TWO PARTS OF THIS MILLET TO ONE PART OF SOJA BEANS, MIXED WHEN FILLING THE SILO. THE SOJA BEANS SUPPLY THE ALBUMINOIDS AND FAT IN WHICH THE CORN AND MILLET ARE DEFICIENT. THIS MIXTURE FORMS A COMPLETE BALANCED RATION FOR MILCH COWS WITHOUT THE ADDITION OF GRAIN, THOUGH IT IS, OF COURSE, ADVISABLE TO FEED GRAIN OCCASIONALLY AS A CHANGE.

This ensilage combination will certainly become popular, and when generally used, as we predict it will be, it will result in a saving of hundreds of thousands of dollars annually to the dairymen and farmers of the United States. This Millet does not endure drought well, except it be sown early in retentive soil, and it is not adapted to the climate, nor is it recommended for the Southern States; but north of Washington, D. C., and especially for good, rich soils, we confidently recommend its general cultivation. It will produce a fair second cutting, if sown early in May, and cut when in blossom. It may be sown from the middle of May to the 1st of July, broadcast, at the rate of 15 lbs. per acre, but it is better to sow it in drills, 12 to 18 inches apart, using 10 to 12 lbs. per acre, and hoed between the rows to keep down all weeds until the plant attains a height of 12 to 18 inches when its rapid growth will smother all weeds. Price, 15c. lb.; 10 lbs. \$1.20; 100 lbs. \$10.00. (See engraving.)

HUNGARIAN. Is the quickest of catch crops for hay, and as it may be sown any time during the summer months up to the middle of August, it is invaluable for overcoming a shortage of the regular hay crop, it is fairly drought resistant. Many farmers now occupy their land with other crops, and for their hay depend entirely upon Hungarian Grass, which they can sow after other crops have been harvested. Sow 1 bushel per acre. \$4.50 bushel of 48 lbs.; 10 bushels and upwards, \$4.40 bushel.

GERMAN or GOLDEN. This variety is considerable larger than Hungarian and yields a much heavier crop, but is later and not so quick growing, consequently cannot be sown much after the fourth of July in this latitude. To maintain its heavy cropping character, seed of this variety needs to be specially cultivated. Our seed is specially grown and selected, and will produce nearly double the crop obtained from seed not so grown. Sow one bushel per acre. (See engraving.) \$3.75 bushel of 50 lbs.; 10 bushels and upwards, \$3.65 bushel.

PEARL MILLET

(*Pennisetum spicatum*)

This has been cultivated for some years in some of the Southern States, under the names of African Cane, Egyptian Millet, Cattail Millet and Horse Millet. It grows with tropical luxuriance in strong, loamy soil, particularly if well enriched, and then attains a height of from 7 to 9 feet, and produces an enormous quantity of green fodder, for which purpose it can be cut several times during the season, as it immediately starts a new growth after cutting, and grows with great rapidity. Is not so hardy as the other varieties, and succeeds best in latitudes south of New York. The first cutting should be made when about 3 feet high; this will cause it to tiller and spread, and as the season advances and becomes warmer, it grows with marvelous rapidity. It will prove of exceptional value if grown in sections subject to protracted droughts. Sow in drills, 5 to 6 lbs. per acre; if broadcast, 8 lbs. per acre. Weight, per bushel, 56 lbs. Clean seed, 15c. lb., \$12.00 per 100 lbs.

"July 20th I drilled in with fertilizer 200 lbs. of Millet, and it showed little growth for 8 days. We cut it on the 18th September and it was so large and so strong a growth that it took 3 horses to gather it. My neighbors predicted that I would not have half enough to fill the silo, but we filled it to the brim."
CHARLES MERRILL, Randolph, N. Y.



GOLDEN MILLET

SAND or WINTER VETCH (Vicia) (Villosa)

Succeeds on Soils of the Lowest Fertility

THE BEST LEGUME FOR SANDY SOILS

Remains Green All Winter,
Furnishing Abundant Pasturage

Although Sand Vetch succeeds, and even produces good crops on poor sandy soils, it is, naturally, more vigorous on better land. Under such conditions the plant produces numerous branches 3 to 6 feet long. Both leaves and branches are covered with fine hairs, hence it is sometimes called "Hairy Vetch." The seeds are black, small in size, and when the crop is not pastured too closely, the ripened pods burst open and re-seed the field. Sand Vetch is hardy all over the United States, and in most places remains green all winter. The crop may be seeded, either from the middle of August to the middle of September, or in the spring from the middle of April to the middle of May.

Sown in the fall it should be mixed with Mammoth Red Clover or Rye to serve as a support for the vines, thus keeping the forage off the ground.

If sown in the spring it may be mixed with Oats or Barley. Fall sown crops furnish some forage before winter comes, and as growth starts very early in the spring it can be pastured, cut for hay, or turned under to renovate the soil.

Sow one bushel per acre, with one-half bushel of Rye or Wheat.
Price, 40c. per lb.; \$21.75 per bushel of 60 lbs.; 190 lbs., \$35.00.

FOR PASTURE. Sand Vetch is also of great value for the pasture it furnishes, as well as for hay. It is as rich and nutritious a fodder as Alfalfa, Clover or Cow Peas, forms an excellent food for growing animals, and encourages milk production. All stock relish it, whether fed as green forage or cured hay, and it may be fed to them with perfect safety. Sand Vetch is decidedly the best forage crop to grow in the Northern states, instead of Scarlet Clover, which winter kills in those latitudes. Every dairyman and stockbreeder in the United States should grow this valuable crop, for there is no doubt that once they try it, they will never be another season without it.

AS A HAY CROP. Sand Vetch is an early crop for cutting, so that it is possible to harvest a full crop of Vetches, and yet have the land ready in time for early summer crops. It is especially valuable in the South and in dry western regions, as it may be sown in the fall, making a luxuriant growth during the fall and spring months, yielding a heavy crop, which can be cut and stored before drought sets in. Sand Vetch sown at the Colorado Experiment Station, June 10th in rows 40 inches apart, using



30 pounds of seed per acre yielded 3 1/4 tons of cured hay per acre. The field was afterwards turned into pasture, which was greatly relished by both horses and cattle.

AS A SOIL ENRICHER. As its name would imply, there is no plant that succeeds better on poor, sandy, or other soils low in fertility, and it is undoubtedly the best legume for enriching such lands, having the power of accumulating large quantities of nitrogen in the soil. Although succeeding on such soils without fertilizer, the Alabama Experiment Station found it profitable to add 240 pounds of acid phosphate and 40 pounds of muriate of potash per acre when grown on such lands.

AS A COVER CROP. The foremost orchardists highly recommend Sand Vetch as a cover crop. Soluble plant food in porous soils leaches away in considerable amounts during the late fall and early spring, when the roots of trees are not actively foraging for it. Especially is this the case on loose sloping lands which often suffer severely from erosion. Fertilizing elements which would otherwise be wasted are caught by the cover crop, and when it is plowed under and rotted become available food for the trees in the spring.

Owing to the fact that it grows late in the fall, and to its ability to live over winter, Sand Vetch is certainly the best cover crop for orchards. (See engraving.)

True Dwarf Essex Rape

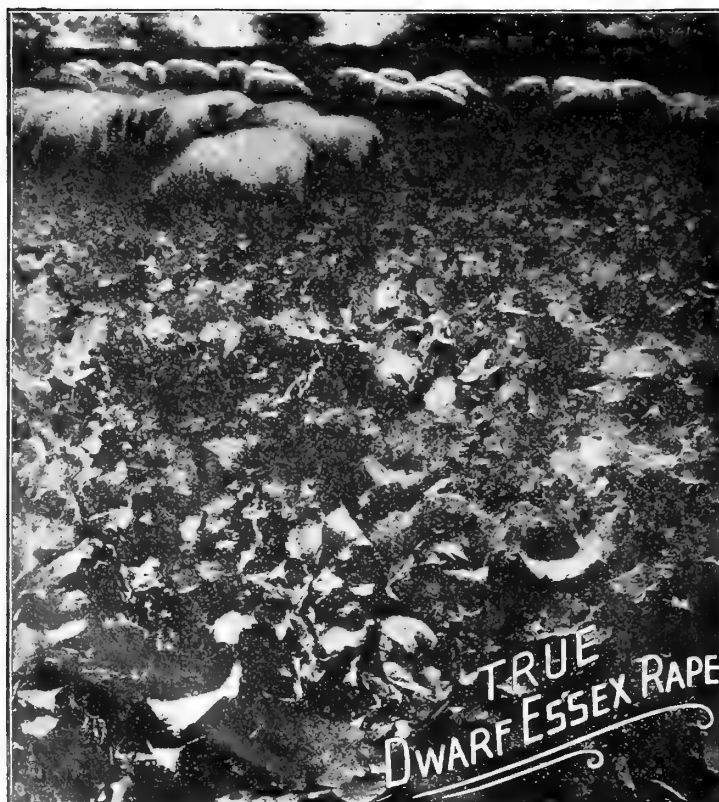
Indispensable for Sheep and Hogs

Sow in the North from April to end of Aug., in the South During Sept. and Oct.

Provides Perfect Pasture and is Greatly Relished by All Stock

Under favorable conditions it is ready for pasturing sheep or cattle within six weeks from time of sowing, and on an average one acre will carry twelve to fifteen sheep six weeks to two months. When on the Rape they should at all times have access to salt; but water is not necessary. There are several varieties of Rape, but care should be taken to procure the DWARF ESSEX, or English, as it is sometimes called, which does not seed the same season as sown, unless in some exceptional cases, as when sown too early and the young plant is touched by frost. In Northern states it should be sown from April to end of August for fall pasturing, but as it thrives best in cool weather, it should not be sown in the Southern states until September or October for winter pasture. In the latitude of New York it should be sown in April, or in July or August. Its fattening properties are probably twice as good as those of Clover, and for sheep the feeding value of Rape excels all other plants we know of. At the Michigan Experiment Station 128 lambs were pastured for eight weeks on 15 acres of Rapesown in July, and showed a gain of 2,890 lbs., or at the rate of 3 lbs. per lamb each week. Even so far south as Alabama it has proved a boon to the farmer. In a recent bulletin published by the Alabama Experiment Station they state: "Quality of product good for both hogs and cattle. The growth was enormous. By repeated sowings it will and did carry more hogs through our dry, hot summers than four times the amount of land planted in any thing else ever grown here. I would recommend it to all southern farmers." To secure the best results, the Rape should be sown in drills. Sow 4 lbs. per acre broadcast, 2 to 3 lbs. per acre in drills. (See engraving.)

Price, 30c. per lb.; \$13.00 per bushel of 50 lbs.; 100 lbs., \$25.00.



For SPRING VETCHES or TARES (*Vicia sativa*), see page 32



Note
THE
Nitrogen
GATHERING
NODULES
ON THESE
Soja Bean
ROOTS

Like other leguminous plants, the Soja Bean has the power of drawing nitrogen from the air, and storing it in nodules on its roots. Think of the enormous fertility power that is stored in millions of these nodules uprooting a crop of soja beans—impart to the land.

EARLY SOJA BEANS

EARLY GREEN SOJA OR SOY BEANS

Valuable Either for Fodder or Grain. A Great Soil Enricher, Gathering Nitrogen from the Air. Produces Enormous Crops as Far North as Canada, Ripening Seed as Far North as Massachusetts. Specially Valuable (In Combination with Japanese Millet and Fodder Corn) For Ensilage, Supplying the Albuminoids or Flesh-Forming Food

SOJA BEANS have attracted much attention in recent years on account of their high feeding qualities, but all were too late to be of value in the Northern States. This early green variety has proved its earliness and value in the Northern States by not only producing large fodder crops, but ripening the seed as far north as Massachusetts. It is worthy of a place on every farm, either as a grain crop or fodder crop to feed green, or for the silo. The grain is the richest known vegetable substance, and when ground and fed to cattle gives a milk richer and better than cotton seed or other meal.

For Ensilage it forms a Complete, Balanced Feed Ration.

While corn is the most serviceable crop for ensilage, though ever so well preserved as to succulence, odor and flavor, it is an incomplete feed for cattle, being deficient in albuminoids or protein (the flesh formers), as well as fat. This deficiency has hitherto been supplied by feeding, in addition to the corn silage, such grain as oats, wheat, etc., or concentrated feeds, such as meal, oil cake, or some other commodity, rich in the elements in which corn silage is deficient. But the American farmer can now, by the aid of the Soja or Soy Bean and Japanese Millet, grow on his own farm, at small cost, a combination which furnishes a wholesome, economical and completely balanced feed for milch cows. This combination should be composed of two parts millet or corn to one part Soja Beans, grown separately, but mixed thoroughly, at the time of cutting and filling of the silo. This combination ensilage develops a most agreeable aromatic odor, and is greedily relished by cattle—both dairy cows and fattening stock. It certainly will be generally used by all up-to-date farmers and dairymen, and will

revolutionize the dairy industry of the United States. We do not recommend the feeding of this combination to the entire exclusion of grain or other concentrated feed. We recommend that grain be fed occasionally as a change, but four-fifths of the grain bill can be saved. We recommend all farmers to plant this year at least an acre or two of our early Green Soja Beans and an equal area of Japanese Millet, to test and prove for themselves the value of the combination, and we are confident that, thereafter, all who try it will each year grow a larger acreage. Planted the latter part of May, in latitude of New York, the Beans are ready for harvesting in about 100 days. Japanese Millet comes quicker to maturity than Soja Beans, and on the authority of Prof. W. P. Brooks, of Hatch Experiment Station, Mass., should be sown from four to five weeks later, so as to be in the best condition for the silo, along with the Soja Beans. Sow the Beans from the middle to end of May, and the Millet from last week in June till first week in July; both will then be ready for silo about the end of August.

Planted in rows $2\frac{1}{2}$ feet apart, 6 to 8 plants to the foot of row, requiring three pecks per acre, they yield 15 to 20 tons per acre of fodder very rich in flesh formers. For green feed, use from time of blossoming till pods are well filled; for the silo, cut as soon as most of the pods are well filled, and cut into $\frac{1}{2}$ -inch to $2\frac{1}{2}$ -inch lengths. They are soil enrichers, gathering nitrogen from the air same as clover, the roots being crowded with nodules which give them this power. (See engraving.)

Price, 20c. per lb.; \$2.50 per peck; \$9.00 per bushel, 60 lbs.; 10-bushel lots, \$8.90 per bushel.

VELVET BEAN (*MUCUNA UTILIS*)

VELVET BEAN (*Mucuna utilis*). A rank growing leguminous vine, attaining a length of 10 to 40 feet and densely covering the ground. As a green manuring and forage crop it is of great value in the South and in tropical countries. No other forage crop makes such enormous growth in such a short time. On the sandy lands of Florida it averages 5,000 pounds of cured forage per acre, while on richer soils in Alabama the weight is often over 8,000 pounds per acre. The crop may be used as green forage, pastured or cured into hay, for which purpose it should be cut when in full flower or before the pods get large. The feeding value is high, as nutritious as Cow Peas, or Clover. Cattle and hogs thrive especially well on it. As a soil enricher the Velvet Bean crop

is not surpassed. It gathers nitrogen from the atmosphere, and when the crop—or at least the roots and stubble—is turned under, this expensive element in fertilizers is added to the soil, which with the humus added from the decayed crop, increases the fertility of the land, putting it in fine condition for the succeeding crop. No fertilizer containing nitrogen need be used to grow Velvet Beans, but if the soil is poor an application of about 250 pounds of acid phosphate and 100 pounds of muriate of potash per acre would be beneficial. Plant the seed a few inches apart in rows 4 feet apart, requiring about 1 bushel of seed per acre.

Price, \$2.50 per peck, \$9.00 bushel of 60 lbs.

Canada Field Peas

VALUABLE FOR FORAGE, HAY AND PASTURE

"Peas could be made to bring more Nitrogen to the soils of this country every year than is now purchased annually by the farmers at a cost of a million dollars."
Year Book of the U. S. Department of Agriculture.

The great value of Field Peas in farm economy is not sufficiently appreciated. They will flourish in districts too cool and uncertain for corn, particularly in our northern states from New England to Oregon. Peas may be grown for grain, green forage, cured hay or pasture and their feeding value, whichever way used, ranks high for all farm animals, being rich in muscle, blood and bone forming constituents, therefore of special value for feeding growing and working animals. Peas are also great soil improvers, putting the land in better mechanical condition and enriching

it with nitrogen—the expensive element in fertilizers—which the pea crop gathers from the air and fixes in the soil. For these reasons Field Peas should have a place in the system of crop rotation, particularly on farms where stock is raised, and if the peas can precede some crop that requires an abundance of nitrogen, such as oats, wheat or other grain crop, the most subsequent good will be realized. For soiling, plowing under as green manure, no crop is of more importance.

Ground peas, mixed half and half with shorts, bran or ground oats, makes an excellent ration for brood animals in milk, milch cows, horses and colts. It is also excellent for fattening, particularly in the early stages. For hogs, sheep and poultry the peas need not be ground.

Pea hay cut a little green and well cured approaches clover in feeding value, and is more relished by horses, cattle and sheep than the straw of any other of the small grains. Some farmers prefer to sow Field Peas with oats or barley when grown for forage, hay or pasture. This combination is excellent and at its best when other grasses are liable to be failing on account of dry weather. Field Peas do best on well prepared loam; though being vigorous, hardy growers will do the best they can on light land. In the cool northern belt they may be sown at any time during spring or early summer, but in warmer climates they should be gotten in as early as possible in the spring. They may then be harvested in time to sow the land to Crimson Clover, Millet or Dwarf Essex Rape. In southern states (south of Virginia) sow in the winter, from December to February. They may then be followed by Cow Peas, Soja Beans or other crop.

Quantity Per Acre: Sow if alone 3 bushels per acre; if with Oats or Barley 2 bushels of Peas and 1 bushel of the other chosen grain.

CANADA FIELD PEAS. These are exceptionally hardy and valuable for early spring sowing; the crop is not easily injured by late frosts.

CANADA WHITE FIELD. A very prolific variety, yielding on the average in Canada 30 bushels of cured peas per acre and equally valuable for luxuriant growth of

vine for forage, etc. (See engraving.)

Price, \$2.25 per peck; \$8.00 bushel of 60 lbs.; 10-bushel lots, \$7.90 bushel.

CANADA BLUE. A hardy, prolific variety of luxuriant growth. Price on application.

Cow Peas (VIGNA CATJANG)

IMPROVE WORN-OUT SOILS AND MAKE GOOD LAND MORE PRODUCTIVE

The early varieties of Cow Peas are quite extensively and successfully grown for forage and soiling as far north as Massachusetts, but so far north the crop may not ripen seeds. They are the great leguminous crop of our Southern States where they serve the same important purpose in rotation farming that Canada Field Peas and Clovers do in the North.

Cow Peas are nitrogen-gathering legumes, growing more like Beans than Peas, producing enormous crops of bushy vines and yielding in warm climates a bountiful crop of edible Peas. As a soil renovator and enricher, Cow Peas are very valuable. The large root development ramifies over large areas, going down deeply in search of moisture and food thus improving the soil's porosity and adding humus when the roots decay. A crop of Cow Peas collect nitrogen from the air in large quantities and fixes it in the soil, thus adding this expensive element of fertilizers to the land without cost, and leaving it richer and in splendid condition for the future crop. It has been fully demonstrated at a number of experiment stations that a crop of Cow Peas plowed under, will add 110 lbs. of nitrogen per acre to the soil, having an actual cash value of \$14.00 per acre. In addition to that the Cow Pea crop renders available as food for succeeding crops, 24 lbs. of phosphoric acid and a 100 lbs. of Potash per acre. All crops grown after Cow Peas do well. Moreover, the plants shade the soil keeping it in best condition for rapid nitrification. The shading of the soil crowds out all weeds; thus Cow Peas serve as a cleansing crop on weedy land. Cow Peas grow on all soils from the stiffest clays to porous sands, barren uplands and alluvial bottoms. It stands the heat and sunshine of southern summers and its rapid growth there enables two crops to be grown in the same land in one year. The feeding value of Cow Peas is high, whether as green forage, cured hay or silage, being especially rich in blood, bone and muscle-forming material. Hogs do well pastured on Cow Peas; an acre of ripening Peas will feed and fatten 15 to 20 young hogs; sheep and cattle may also be fed on the green fodder cut and wilted a little otherwise they eat it so ravenously, they are liable to bloat. For green manuring clay land, the crop should be turned under green. On sandy soil, already to light, the vines should decay on the surface and then be turned under. Sow 2 bushels per acre. (See engraving.)

BLACK-EYED COW PEAS. A popular and productive early sort. Price \$2.75 per peck; \$10.00 per bushel of 60 lbs.; 10-bushel lots, \$9.90 per bushel.

NEW ERA COW PEAS. A new, extra early variety, earlier than

the black Eye, the quickest growing of any of the Cow Peas, maturing in about 60 days, specially adapted for planting North. Yields well.

Price, \$2.50 per peck; \$9.00 per bushel of 60 lbs.; 10-bushel lots, \$8.90 per bushel.



HENDERSON'S . . . SUPERIOR ROOT CROPS FOR . . . FARM STOCK.

Mangel Wurzel or Stock Beet

Mangels are the most important of all root crops for feeding and form the best winter feed for cattle and hogs. They increase the flow of milk when fed to milch cows and yield enormous crops, as much as 50 tons having been grown on one acre. They may be grown in any part of the American continent on fairly good farm land; all that is necessary is good cultivation.

The best soil for Mangels is loose, friable loam and deep plowing. If expedient, follow the plow with a subsoil plow, and the crop will more than repay the extra trouble. The ground should be well enriched, and the seed sown in May in drills 24 inches apart in light soils, and 30 inches apart in strong, rich land; thin out the plants with a hoe to 9 inches apart in the former and 12 inches apart in the latter. 6 to 8 lbs. of seed are used per acre if sown with a drill, or double that quantity by hand. Cultivate with a horse hoe.

HENDERSON'S COLOSSAL LONG RED. This is a distinctly fine breed of this popular Mangel. The roots are smooth and regular, of the largest size and blood-red color. The quantity is exceedingly nutritious, and in all respects this variety is most distinct and valuable. (See engraving.) \$2.00 per lb.; in lots of 10 lbs. and upward, \$1.90 per lb.

HENDERSON'S GIANT INTERMEDIATE. This is a variety between the Golden Tankard and Yellow Globe. It is larger than the Tankard, not such a rich golden color, but a heavier cropper. \$2.00 per lb.; in lots of 10 lbs. and upwards, \$1.90 per lb.

GOLDEN TANKARD. The bulbs are handsome in shape with deep orange colored skin. The flesh is bright golden-yellow, and in this respect differs from most other varieties, which cut white. Sheep have a preference for this sort over other Mangels; it is said that they will pick out every piece of Golden Tankard before touching others. It yields under the best cultivation 75 tons per acre. (See engraving.) \$2.00 per lb.; in lots of 10 lbs. and upward, \$1.90 per lb.

LONG RED. This variety is more generally grown for agricultural purposes than any other, producing roots of large size and excellent quality. \$2.00 per lb.; in lots of 10 lbs. and upward, \$1.90 per lb.

LONG YELLOW. Differs from the Long Red only in color. \$2.00 per lb.; in lots of 10 lbs. and upward, \$1.90 per lb.

HENDERSON'S CHAMPION YELLOW GLOBE. Smooth globe-shaped roots, of large size and excellent quality, are the distinctive features of this variety. Crop failed.

"I grew Henderson's Colossal Long Red Mangels last year, and I must say that they were very fine and exceeded all expectations. I harvested 1320 bushels of roots per acre."

J. LEMAIRE, Ulsterville, N. Y.

NEW HALF SUGAR MANGEL

Solid White Flesh Very Rich in Saccharine Matter



As seed of the different varieties of sugar beet is almost unprocurable this season, we would recommend planting for stock feeding the improved breed of New Sugar Mangel offered below.

This is distinctly a new variety of Mangel, and is the result of careful interbreeding between White Sugar Beet and Colossal Long Red Mangel. It certainly approaches nearer to a Sugar Beet than any other known variety of Mangel, and by analysis it has been shown that it is very rich in saccharine matter. Its growth is very rapid, so that it matures much more quickly than other varieties, and on that account it may be sown at a later date.

The bulb is very uniform, of good shape, and has a single tap-root. When singling it may be left much more closer in the rows, than larger growing Mangels, and it will yield remarkably heavy crops.

Half Sugar Red, per ¼ lb., 75c.;
lb., \$2.00; 10 lbs., \$1.90 lb.
Half Sugar White, per ¼ lb., 75c.;
lb., \$2.00; 10 lbs., \$1.90 lb.



RUTA BAGA RUSSIAN OR SWEDISH TURNIP

MAKES GRAND WINTER FEED FOR ALL KINDS OF LIVE STOCK

These grow very rapidly, and yield from twenty-five to thirty-five tons per acre, in good, rich, deep soil, with proper cultivation. The Ruta Bagas proper should be sown in this latitude from May 25th to June 25th; while the smaller-growing Turnips can be sown from July 1st to the middle of August. Sow 2 to 3 lbs. per acre.

LONG ISLAND IMPROVED PURPLE-TOP. This is undoubtedly the finest variety of purple-top Ruta Baga, and originated with one of our Long Island growers. It is twice the size of ordinary American stocks, and although size is usually got at the expense of quality, the quality is superior to any that we have tested. It is perfectly hardy. In a fair test on several Long Island farms, alongside some of the best European and American varieties, it produced almost twice the weight per acre of any other variety. As a winter food for live stock the Ruta Baga has a wide range of adaptation, and is found at its best where the weather is moist and cool. (See engraving.) Price, \$3.00 per lb.

IMPROVED AMERICAN (PURPLE-TOP). An old leading variety; very hardy and productive; flesh yellow, solid, sweet and fine-flavored; equally good for stock or table use. Price, \$3.00 per lb.

LAING'S IMPROVED. One of the earliest of the Ruta Bagas; keeps well; good for stock or table use. Price, \$2.50 per lb.

LARGE WHITE FRENCH. Flesh firm, white and solid; attains a large size, and has a very rich and sweet flavor; a very popular variety. Price, \$2.50 per lb.

"Your Ruta Bagas are all you claim for them. Hard as rocks and of very fine flavor."

C. G. VINCENT, Moorhead, Clay Co., Minn.

"Before I retired I raised one season 3,123 bushels of Henderson's Long Island Improved Ruta Baga. They were the pride of the neighborhood."

CYRUS PICKETT, Cheshire, Conn.

TURNIP

SPECIALLY ADAPTED FOR STOCK
FEEDING

WHITE FLESHED

PURPLE-TOP WHITE GLOBE. One of the best varieties grown; thick globe-shape, of large size, rapid growth, fine quality and a heavy cropper. It keeps well, and is unequalled for stock-feeding. 70c. per $\frac{1}{4}$ lb.; \$2.50 per lb.

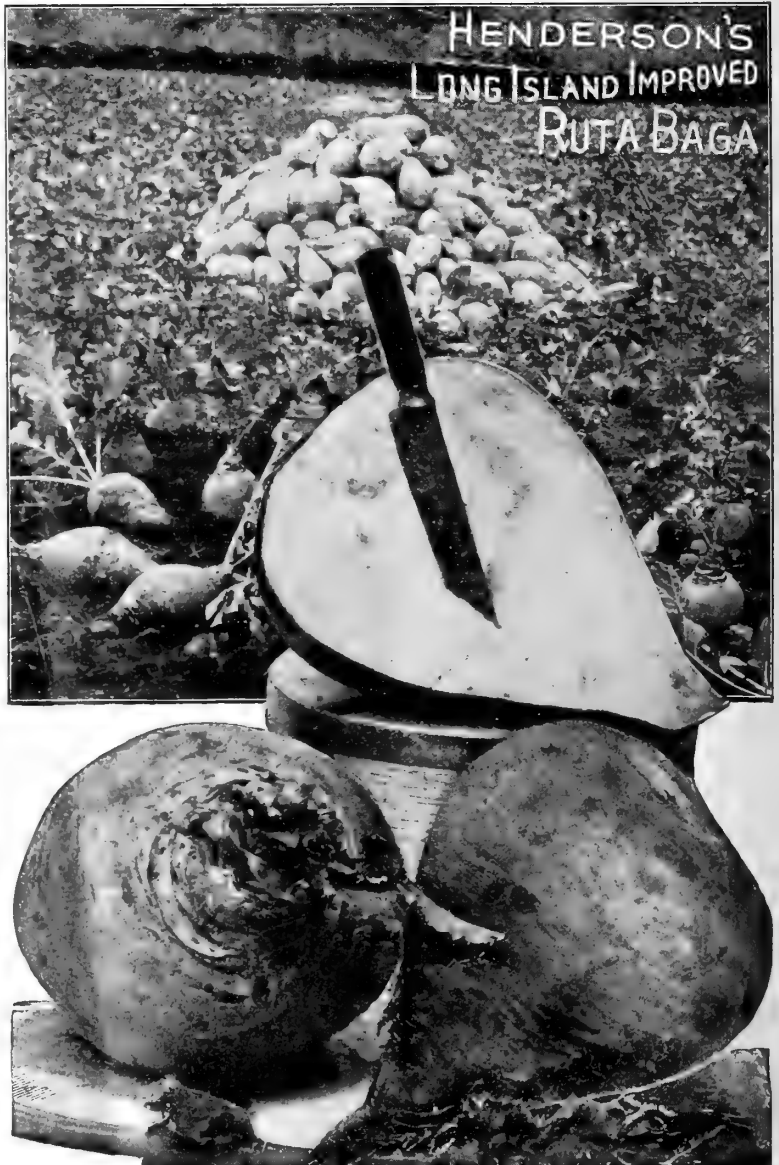
LONG WHITE OR COW HORN. Matures very quickly; root shaped like a Carrot, about half of which is formed above ground; flesh white, fine-grained and sweet, and of excellent quality. 70c. per $\frac{1}{4}$ lb.; \$2.50 per lb.

YELLOW FLESHED

WOOD'S GREEN TOP YELLOW (New). The best variety for winter use; the flesh is extremely hard, solid and brittle and is highly esteemed by cattle; the shape which is free from neck enables it to be trimmed without waste. (Crop failed.)

YELLOW GLOBE. One of the best varieties for general crop; flesh, very firm and sweet, and keeps well until late in the spring; grows to a large size, and is excellent both for stock or table use. 70c. per $\frac{1}{4}$ lb.; \$2.50 per lb.

YELLOW ABERDEEN. Very hardy and productive, good keeper; globe-shaped; pale yellow, with purple top. Very firm in texture, closely resembling the Ruta Bagas in keeping qualities; good for stock. 70c. per $\frac{1}{4}$ lb.; \$2.50 per lb.



FIELD CARROT

LONG ORANGE IMPROVED.—Of large size, fair specimens averaging 12 inches in length, with a diameter of 3 inches at the top. Color, orange-red. Fed to milch cows it imparts to the butter a delicious flavor and rich golden color. 30c. per oz.; \$1.00 per $\frac{1}{4}$ lb.; \$3.00 per lb.

DANVERS.—A handsome cylindrical-shaped Carrot of good size and stump-rooted. Under the best cultivation it has yielded from 25 to 30 tons per acre. 35c. per oz.; \$1.20 per $\frac{1}{4}$ lb.; \$4.00 per lb.

WHITE VOSGES.—The heaviest-cropping field Carrot, producing thick, shapely Carrots, which are easily harvested. They are used for stock feeding. They grow clean and free from side roots. 20c. per oz.; 60c. per $\frac{1}{4}$ lb.; \$2.00 per lb.

LARGE WHITE BELGIAN.—Exclusively grown for stock. 20c. per oz.; 60c. per $\frac{1}{4}$ lb.; \$2.00 per lb.

LARGE YELLOW BELGIAN.—Similar to above except in color. 20c. per oz.; 60c. per $\frac{1}{4}$ lb.; \$2.00 per lb.

IF DESIRED BY MAIL ADD POSTAGE ACCORDING to ZONE RATES PRINTED on INSIDE of COVER

HENDERSON'S GOVERNMENT INSPECTED SEED POTATOES

NORTHERN GROWN
ESPECIALLY FOR SEEDING

PRICES OF POTATOES ARE SUBJECT TO CHANGE WITHOUT NOTICE

(1 peck will plant about 125 hills; 10 to 12 bushels per acre, in drills 3 feet apart.) Purchaser pays freight or express charges and assumes risk from freezing or heating. The barrel is 165 lbs. net weight. Prices subject to change without notice.

Early Varieties

Henderson's BOVEE POTATO. The popular extra-early. Delicious, appetizing new potatoes can be produced earlier with BOVEE than any other. It is not only early, but produces its crop in great abundance, and yields a very large percentage of perfectly formed tubers. The cultivator can be used to better advantage on a crop of Bovee than any other sort, owing to the short and compact growth of the vines, and its habit of setting the entire crop close in the hill.

Bovee, perhaps more than any other sort, delights in a rich soil, responding most generously to good treatment; given the proper soil conditions, frequent and thorough cultivation and fairly good climatic conditions, it will yield an abundance of medium sized Potatoes of perfect shape and remarkably good quality. Price, \$1.75 peck, \$6.00 bushel, \$12.00 barrel of 165 pounds net weight.

Beauty of Hebron. A popular early sort and one of the best; red and white skin and pure white flesh; quality excellent; productive and a good keeper. \$1.50 peck, \$5.00 bushel, \$10.00 barrel.

Clark's No. 1. Earlier than Early Rose and very productive; cooks mealy. \$1.50 peck, \$5.00 bushel, \$10.00 barrel.

Early Ohio. Very early, almost round; flesh solid; cooks dry and mealy. \$1.60 peck, \$5.50 bushel, \$11.00 barrel.

Early Norther. A splendid, extra early; earlier than Early Rose, which it resembles, and exceedingly prolific; eyes few and shallow; unexcelled cooking qualities, dry and floury. \$1.50 peck, \$5.00 bushel, \$10.00 barrel.

Early Puritan, Henderson's. A valuable early sort, which produces a heavy crop of roundish-oval tubers of good average size. Both flesh and skin are white. The plant is strong and resists disease well. The flesh is of fine texture, and when cooked is dry, floury and full-flavored. \$1.60 peck, \$5.50 bushel, \$11.00 barrel.

Early Rose. The popular standard early; noted for earliness, productiveness and fine quality. \$1.50 peck, \$5.00 bushel, \$10.00 barrel.

Queen. A grand, early Potato, resembling Beauty of Hebron in color, shape and size, but is much earlier, and a heavy cropper. \$1.50 peck, \$5.00 bushel, \$10.00 barrel.

Irish Cobbler Potato

A fine, early variety, producing large handsome tubers, uniform in shape and size.

The flesh is white, and of excellent quality; the skin very light brown, with whitish netting. It is a heavy cropper. (See engraving). \$1.60 peck, \$5.50 bushel, \$11.00 barrel.

Main Crop Varieties

Carman No. 3. Enormously prolific, averaging nearly a pound apiece; very uniform in shape, white skinned, few and shallow eyes; flesh snow-white and of exceptionally fine cooking qualities. \$1.50 peck, \$5.00 bushel, \$10.00 barrel.

Late Puritan, Henderson's. A handsome, large, white-skinned Potato, one of the best late varieties grown. heavy yielder, good keeper; cooking qualities superior. \$1.60 peck, \$5.50 bushel, \$11.00 barrel.

Sir Walter Raleigh, Henderson's. A grand, main crop Potato; shape very uniform, large and oval; flesh fine grained, snow-white, cooking dry and floury, splendid keeper. \$1.60 peck, \$5.50 bushel, \$11.00 barrel.

Uncle Sam Potato

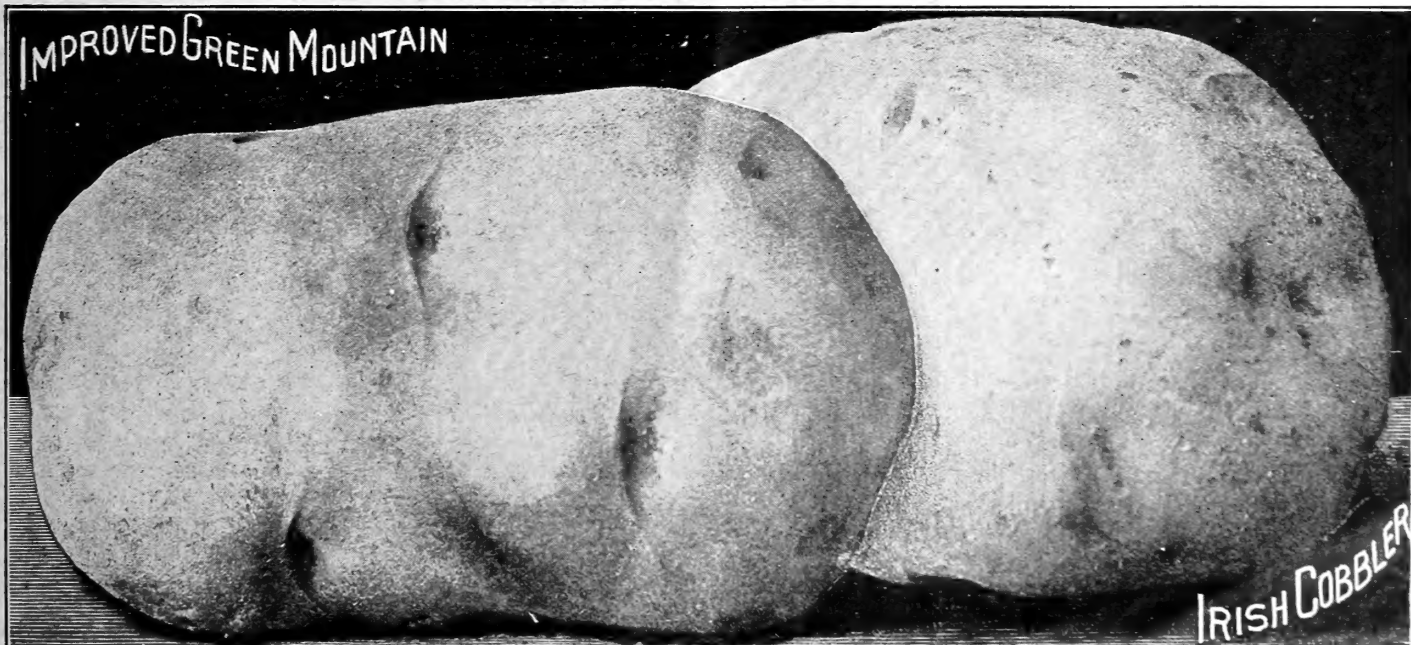
The Handsomest Potato Grown Quality Perfect—White, Dry and Floury

Uncle Sam is a particularly fine Potato with phenomenal cropping qualities. We believe it to be the heaviest yielding variety grown. On a loam or sandy soil it is a wonder in yield and quality. The crop averages remarkably regular in size and shape. Its appearance and superb quality when served satisfy the most fastidious, its flaky snow-white appearance gaining instant favor.

The tubers are oval shaped, with light russet skin, very even in outline and with shallow eyes. Its handsome appearance and perfect form always ensure a fancy price on the market. \$1.60 peck, \$5.50 bushel, \$11.00 barrel.

Improved Green Mountain Potato

A reliable medium late Potato which is rapidly increasing in popularity—in fact, in some sections it has superseded all other main crop varieties. It seems to thrive in all soils and in all localities, making heavy, healthy vines, and yielding big crops of large, smooth, white skinned tubers of handsome flattish oval form. It cooks white, dry and mealy, and has a desirable flavor exclusively its own. It keeps well, and is not liable to scab or decay. (See engraving). \$1.60 peck, \$5.50 bushel, \$11.00 barrel.



Purchaser pays Freight or Express Charges on Potatoes and assumes risk from Freezing or Heating. A Barrel Weighs 165 Lbs. Net.

Miscellaneous Agricultural Seeds

ARTICHOKES, JERUSALEM. Strong tubers. A hardy perennial, forming roots like a Potato, making excellent feed for stock, especially for hogs. 25c. quart, \$1.25 peck, \$4.00 bushel.

AUSTRALIAN SALT BUSH. (*Atriplex semibaccatum*.) A valuable forage plant recently introduced and highly recommended for growing on alkali soils and in sections subject to protracted droughts. Experiments have proven that it will grow on soils where nothing else will grow. It is nutritious and readily eaten by all kinds of live stock. One pound of seed is sufficient for an acre. The best plan is to sow the seed in well-prepared garden soil and the seedlings when two or three inches high, planted six or eight feet apart. 15c. oz., \$1.25 lb., 10-lb. lots, \$1.15 lb.

IMPROVED RED KIDNEY BEAN. Much more prolific than the ordinary Red Kidney. Price on application.

WHITE MARROW or NAVY BEAN. The variety so extensively grown for sale in the dry state. Price on application.

BOSTON SMALL PEA BEAN. A desirable variety to grow, being early, hardy and prolific. Price on application.

BEGGAR WEED. (*Desmodium tortuosum*.) A leguminous annual plant growing, according to soils and conditions, 3 to 7 feet high. It is highly esteemed where known in our Southern states as a forage and soil renovating crop, particularly on light, sandy land. Where sown early it yields two crops of hay in a season, and often in land too poor to grow almost any other crop it has produced 3 to 5 tons of cured hay per acre. As a forage and pasture crop, the feed is relished by stock, and it is highly nutritious, comparing favorably with that of Red Clover and Cow Peas. If cut when about 2 feet high, the plants again stool out from the bottom, thus producing successive crops. It is an excellent crop to turn under as green manure. Sow broadcast 10 to 12 lbs. per acre. Price, 20c. $\frac{1}{4}$ lb.; 75c. lb.

FLAX SEED. Price variable.

SPRING VETCHES, or TARES. (*Vicia sativa*.) A species of the Pea, grown for stock, and often mixed with Oats for soiling. Sown broadcast at the rate of two to three bushels per acre. 20c. lb., \$9.90 bushel of 60 lbs., 10-bushel lots, \$9.00 bushel. For Sand or Winter Vetch see page 26.

SAINFOIN. (*Onobrychis sativa*.) An excellent fodder plant, particularly for light, dry, sandy, gravelly, limestone or chalky soils. Price on application.

FIELD LUPINS. May be sown from April to July, and succeed well on the poorest soil; are particularly valuable for plowing under on poor, sandy soils. Price on application.

SUNFLOWER, MAMMOTH RUSSIAN. Highly valued as an excellent and cheap food for fowl. It is the best Egg-Producing Food known. It can be raised cheaper than Corn. Four quarts of seed will plant one acre. 16c. lb., \$12.00 per 100 lbs.

WILD RICE (*Zizania aquatica*.) As an attraction for wild fowl it cannot be equalled, and as seed is not successful we recommend plants, which should be set out in spring in shallow water having a mud bottom. Seeding plants mailed in May @ \$1.00 per doz.; \$7.00 per 100.

A FULL LINE OF

FARM IMPLEMENTS

Will be Found in our Manual of

Everything for the Garden

for 1918 pages 150 to 184

Henderson's Superior Cotton Seed

UPLAND VARIETIES

ALLEN'S SILK LONG STAPLE. A long staple variety of great merit, and headed the list until the introduction of Cook's famous new variety. 20c. per lb.; 100 lb., 16c per lb.; 1,000 lbs., 14c. per lb.

BOHEMIAN. This is a big boll storm-proof variety with a very fine staple. The bolls are easily gathered on account of their immense size. 18c. per lb.; 100 lbs., 14c. per lb.; 1,000 lbs., 12c. per lb.

COOK'S SILK LONG STAPLE. A selection of Upland Cotton, surpassing all others for fineness and length of staple. The Cook Cotton has invariably brought double the market price, and we would here call particular attention to the fact that the higher the grade of long staple Cotton, the greater is the premium it will bring over and above the ordinary run. 18c. per lb.; 100 lbs., 14c. per lb.; 1,000 lbs., 12c. per lb.

DOUGHTY'S LONG STAPLE. An excellent long stapled variety, the staple often attaining a length of one and three-quarter inches. 18c. per lb.; 100 lbs., 14c. per lb.; 1,000 lbs., 12c. per lb.

EXCELSIOR PROLIFIC. An immensely prolific variety, large bolls, small seed with a superior lint and staple. Withstands drought better than any other variety. 18c. per lb.; 100 lbs., 14c. per lb.; 1,000 lbs., 12c. per lb.

GRIFFIN'S IMPROVED. A long and fine staple, the latter often one and a half to two inches long. For an Upland long staple it is extremely early, and can be planted from 10 to 15 days earlier than most varieties. 18c. per lb.; 100 lbs., 14c. per lb.; 1,000 lbs., 12c. per lb.

HAWKIN'S PROLIFIC. Yields a large crop of good quality and is well adapted for growing on hilly lands. 18c. per lb.; 100 lbs., 14c. per lb.; 1,000 lbs., 12c. per lb.

KING'S IMPROVED. A strong-growing variety which yields wonderful crops. Being of a rugged and strong constitution, it is of the easiest culture and should be included in all experimental collections. 18c. per lb.; 100 lbs., 14c. per lb.; 1,000 lbs., 12c. per lb.

PETERKIN IMPROVED. A favorite variety, fruiting continually throughout the season. 18c. per lb.; 100 lbs., 14c. per lb.; 1,000 lbs., 12c. per lb.

RUSSELL'S BIG BOLL. A most reliable variety, medium early and very heavy. A fine type of big boll, highly recommended for the excellent quality of its lint. 18c. per lb.; 100 lbs., 14c. per lb.; 1,000 lbs., 12c. per lb.

SHINE'S EARLY PROLIFIC. One of the earliest Cottons, and can be grown farther north than any other. Its great merit, however, is its extreme earliness. 20c. per lb.; 100 lbs., 16c. per lb.; 1,000 lbs., 14c. per lb.

TRUITT'S BIG BOLL. This is a distinct variety, with big seeds and big bolls, making gathering easy. 18c. per lb.; 100 lbs., 14c. per lb.; 1,000 lbs., 12c. per lb.

SEA ISLAND COTTON

The Sea Island is quite distinct from all the Upland varieties. When the conditions are right it produces the finest quality of Cotton known. It reaches its greatest perfection when grown on the small islands on the Atlantic Coast, from Florida to Virginia, though it can be successfully grown on the low-lying seacoast of the mainland. Grown further inland, it rapidly deteriorates in quality and yield, and soon becomes unprofitable.

Sea Island Cotton: Price, extra selected, 18c. per lb.; 100 lbs., 14c. per lb.; 1,000 lbs., 12c. per lb.

Seeds of High Grade Tobacco

ONE OUNCE WILL SOW 50 SQUARE YARDS

Tobacco is an annual in the United States although perennial in the tropics. Botanically it is related to the Tomato and Egg-plant, and therefore sensitive to frost. Still it is successfully cultivated as far north as Canada, as it requires but a short season to grow to maturity. The quality of the product depends almost entirely upon the nature of the soil and climate, and highly congenial soils man exist in any section. The suitability of soils in Connecticut, now a great centre of Tobacco production was only discovered by experimentation.

Below we offer some of the new and improved varieties as well as standard sorts.

PRIMUS. The earliest of all; succeeds well even as far north as Canada. 10c. pkt., 25c. oz., 80c. $\frac{1}{4}$ lb.

ZIMMER'S SPANISH. The earliest and best American-Spanish, and a favorite cigar variety, increasing in demand and culture every year. 10c. pkt., 30c. oz., \$1.00 $\frac{1}{4}$ lb.

HAVANA, IMPORTED. 10c. pkt., 60c. oz., \$2.00 $\frac{1}{4}$ lb.

HAVANA, DOMESTIC. 10c. pkt., 30c. oz., \$1.00 $\frac{1}{4}$ lb.

MARYLAND. 10c. pkt., 60c. oz., \$2.00 $\frac{1}{4}$ lb.

SUMATRA, DOMESTIC. 10c. pkt., 60c. oz., \$2.00 $\frac{1}{4}$ lb.

KENTUCKY. 10c. pkt., 25c. oz., 80c. $\frac{1}{4}$ lb.

VIRGINIA. 10c. pkt., 25c. oz., 80c. $\frac{1}{4}$ lb.

IMPROVED CONNECTICUT SEED LEAF. A new Connecticut Havana sort of good width and length. The leaves not being so close together as on the old variety, it ripens more uniformly. Excellent for cigars. 10c. pkt., 60c. oz., \$2.00 $\frac{1}{4}$ lb.

FERTILIZERS

Prices are subject to change without notice.

RAW BONE MEAL. This is ground fine, decomposes more rapidly in the soil than the coarser grades, and is therefore more quickly beneficial.

Quantity Required. For lawns, pasture and mowing lands, $\frac{1}{2}$ to 1 ton per acre. For trees and vines, 2 to 4 quarts each. For field and garden crops, $\frac{1}{4}$ to 1 ton broadcast and harrowed in.

Price, 50 lb. bag, \$2.75; 100 lb. bag, \$4.50 per ton of 2000 lbs. \$75.00

VARIOUS FERTILIZERS

Strictly high-grade—only the best ingredients are used. Soluble and easily assimilated by the crops. Full description and analyses mailed free on request.

Prices f.o.b. New York.	50 lb. bag.	100 lb. bag.	Ton 2000 lbs.
Special Truck Manure	—	\$6.00	\$100.00
General Crop Compound . .	—	3.00	50.00
Potato Manure	—	4.50	80.00
Corn Manure	—	4.00	70.00
Ground Bone, raw ground . .	—	4.50	75.00
Blood and Bone	—	4.50	75.00
Sheep Manure, pulverized.	—	—	—
2lbs. 20c., 5lbs. 40c., 10lbs. 75c.	\$2.00	3.50	60.00
Horse Manure, dried	—	3.00	50.00
Cattle Manure, dried	—	2.75	45.00
Hydrated Lime	—	1.35	20.00
Ground Limestone	—	1.00	15.00
Ashes. Canada Unleached (in barrels) of 200 lbs. \$4.00	—	2.50	35.00

IMPORTED ENGLISH FERTILIZERS

CLAY'S FERTILIZER. 56-lb. bag, \$5.50; 112-lb. bag, \$10.00.

THOMPSON'S VINE, PLANT AND VEGETABLE MANURE. 56-lb. bag, \$5.50; 112-lb. bag, \$10.00.

THOMPSON'S SPECIAL CHRYSANTHEMUM AND TOP DRESSING MANURE. 28-lb. bag, \$5.00; 56-lb. bag, \$9.00.

If small quantities are wanted by mail, postage must be added according to parcel post zone rates

printed on the second page of cover

HENDERSON'S FARMERS' MANUAL 1918

INDEX AND QUANTITIES TO SOW PER ACRE

	Page	Sow (if alone) per Acre		Page	Sow (if alone) per Acre
Agrostis canina—See R. I. Bent.....	5	3 bushels.	Lespedeza striata—See Japan Clover.....	12	14 lbs.
stolonifera—See Creeping Bent.....	4	2 bushels.	Lolium italicum—See Italian Rye Grass.....	7	3 bushels.
vulgaris—Red Top Fancy.....	6	1 bushel.	perenne—See English Rye Grass.....	7	2 1/2 to 3 bushels.
Alfalfa.....	14	30 to 40 lbs.	Lucerne—See Alfalfa.....	14	30 to 40 lbs.
Alopecurus pratensis—See Meadow Foxtail.....	5	3 to 4 bushels.	Lupins.....	32	2 to 3 bushels.
Alsike, Hybrid or Swedish Clover.....	13	8 lbs.			
Andropogon sorghum var.—See Kafir Corn.....	24	8 to 10 lbs.	Mammoth or Pea Vine Clover.....	12	12 lbs.
Anthoxanthum odoratum, See Sweet Vernal, peren	6	3 1/2 bushels.	Mangels.....	29	6 to 8 lbs.
Arrhenatherum avenaceum—See Tall Meadow Oat			Meadow Fescue.....	7	2 1/2 bushels.
Grass.....	5	4 to 5 bushels.	Foxtail.....	5	3 to 4 bushels.
Artichokes.....	32	8 to 10 bushels.	Medicago sativa—See Alfalfa.....	14	30 to 40 lbs.
Australian Salt Bush.....	32	1 lb.	Melilotus alba—See Bokhara Clover.....	12	10 lbs.
Avena elatior—See Tall Meadow Oat Grass.....	5	4 to 5 bushels.	Millet, Golden German and Hungarian.....	25	1 bushel.
Awnless Brome Grass.....	10	20 to 25 lbs.	Japanese (in drills, 10 lbs. per acre).....	25	Broadcast, 15 lbs.
			" Pearl, Egyptian, Cat-Tail or Horse Millet.....	25	Drills, 5 to 6 lbs.
Barley (Sow broadcast, 2 to 2 1/2 bushels).....	23	1 1/2 to 2 bu. drilled.	Millo Maize—See Douras.....	24	Broadcast, 8 lbs.
Beans, Field.....	32	1 bushel drilled.	Mucuna utilis—See Velvet Bean.....	27	4 to 5 lbs.
" Soja.....	27				2 bushels.
" Velvet.....	27	1 bushel.			
Beet, Sugar.....	29	6 to 8 lbs.	Oats.....	19 to 21	3 bushels.
Beggar Weed.....	32	10 to 12 lbs.	Onobrychis sativa—See Sainfoin.....	32	3 to 4 bushels.
Bermuda Grass.....	10	6 lbs.	Orchard Grass.....	6	3 to 4 bushels.
Bokhara Clover.....	12	10 lbs.			
Brassica Napus—See Rape.....	26	2 to 4 lbs.	Panicum crus-galli—See Japanese Millet.....	25	15 lbs.
Bromus inermis—See Awnless Brome Grass.....	10	20 to 25 lbs.	Pea Vine Clover—See Mammoth Clover.....	12	12 lbs.
Broom Corn.....	18	8 to 10 lbs.	Peas, Cow.....	28	2 bushels.
Buckwheat.....	24	1 bushel.	" Field.....	28	3 bushels.
			Pennisetum spicatum—See Pearl Millet.....	25	8 lbs.
Canada Blue Grass.....	8	3 bushels.	Perennial Red Clover—See Mammoth Clover.....	12	12 lbs.
Carrots.....	30	4 lbs.	Pheum pratense—See Timothy.....	8	1/2 to 1 bushel.
Chaetochloa italica—See Golden Millet.....	25	1 bushel.	Poa compressa—See Canada Blue Grass.....	8	3 bushels.
Clovers.....	11-13		" nemoralis—See Wood Meadow Grass.....	7	2 bushels.
Corn, Dent.....	15-16	8 to 10 qts.	" pratensis—See Kentucky Blue.....	8	3 bushels.
" Flint.....	17-18	8 to 10 qts.	" trivialis—See Rough Stalked Meadow Grass.....	8	1 1/2 bushels.
" Fodder.....	18	{ Broadcast, 2 bu.	Potatoes.....	31	12 to 14 bushels.
" Pop.....	18	{ Drilled, 1 bu.			
Cotton.....	32	4 lbs.	Rape, English.....	26	2 to 4 lbs.
Cow Grass—See Mammoth Red Clover.....	12	12 lbs.	Reana luxurians—See Teosinte.....	24	6 to 8 lbs.
Cow Peas.....	28	2 bushels.	Red Clover (Common or June Clover).....	11	12 lbs.
Creeping Bent or Fiorin.....	4	2 bushels.	Red or Creeping Fescue.....	9	2 1/2 bushels.
Crested Dog's Tail.....	8	1 1/2 bushels.	Red Top Fancy (Herd's Grass of the South).....	6	1 bushel.
Crimson or Carnation Clover—See Scarlet Clover	13	15 lbs.	Rhode Island Bent.....	5	3 bushels.
Cynodon dactylon—See Bermuda Grass.....	10	6 lbs.	Root Crops.....	29-31	
Cynosurus cristatus—See Crested Dog's Tail....	8	1 1/2 bushels.	Rough Stalked Meadow Grass.....	6	1 1/2 bushels.
			Ruta Baga.....	30	2 to 3 lbs.
Dactylis glomerata—See Orchard Grass.....	6	3 to 4 bushels.	Rye.....	23	1 1/2 bushels.
Desmodium tortuosum.....	32	10 to 12 lbs.			
Douras or Durra.....	24	4 to 5 lbs.	Sainfoin.....	32	3 to 4 bushels.
English Blue Grass—See Meadow Fescue.....	7	2 1/2 bushels.	Scarlet Clover.....	13	15 lbs.
or Perennial Rye Grass.....	7	2 1/2 to 3 bushels.	Sheep's Fescue.....	9	2 1/2 bushels.
Fertilizers.....	32		Smooth Stalked Meadow Grass—See Kentucky Blue	8	3 bushels.
Festuca duriuscula—See Hard Fescue.....	6	2 1/2 bushels.	Soja Bean or Soy Bean.....	27	3/4 bushel.
" elatior—See Tall Meadow Fescue.....	9	2 1/2 bushels.	Sorghums.....	18	8 to 10 lbs.
" heterophylla—See Various Leaved Fescue.....	9	3 bushels.	Sorghum Halapense—See Johnson Grass.....	10	1 bushel.
" ovina—See Sheep's Fescue.....	9	2 1/2 bushels.	Sudan Grass.....	10	12 to 20 lbs.
" tenuifolia—See Fine Leaved Sheep's			Sugar Beet.....	29	6 to 8 lbs.
Fescue.....	7	3 bushels.	Sugar Cane.....	18	8 to 10 lbs.
" pratensis—See Meadow Fescue.....	7	2 1/2 bushels.	Sunflower.....	32	4 qts.
" rubra—See Red Fescue.....	9	2 1/2 bushels.	Swedish Clover—See Alsike.....	13	8 lbs.
Fine Leaved Sheep's Fescue.....	9	3 bushels.	Sweet Clover—See Bokhara Clover.....	12	10 lbs.
Fiorin—See Creeping Bent.....	4	2 bushels.	Sweet Vernal—true perennial.....	6	3 1/2 bushels.
Flax Seed.....	32	1/2 to 3/4 bushel.			
			Tall Meadow Fescue.....	9	2 1/2 bushels.
Glycine hispida—See Soja Bean.....	27	1/4 bushel.	" Oat Grass.....	5	4 to 5 bushels.
Grasses, for the South.....	10		Tares.....	32	2 bushels.
" Hay and Permanent Pasture.....	1	3 bushels.	Teosinte.....	24	6 to 8 lbs.
" Permanent Hay Mixtures.....	3	3 bushels.	Timothy or Herd's Grass of the North.....	8	1/2 to 1 bushel.
" Permanent Pasture Mixtures.....	2	3 bushels.	Tobacco.....	32	
" Clover, for above.....	1	10 lbs.	Trifolium hybridum—See Alsike Clover.....	13	8 lbs.
" Renovating Mixture.....	3	1 bushel.	" incarnatum—See Scarlet Clover.....	13	15 lbs.
" various.....	4-10	3 bushels.	" pratense—See Red Clover.....	11	12 to 14 lbs.
" Woodland Pastures.....	3	3 bushels.	" perenne—See Mammoth Clover.....	12	12 lbs.
Hard Fescue.....	6	2 1/2 bushels.	" repens—See White Clover.....	12	2 to 3 lbs.
Herd's Grass of the South—See Red Top.....	6	3 bushels.	Turnips.....	30	2 to 3 lbs.
" North—See Timothy.....	8	1/2 to 1 bushel.	" Ruta Baga, Russian or Swedish.....	30	8 lbs.
Hungarian Grass—See Hungarian Millet.....	25	1 bushel.			
			Various Leaved Fescue.....	9	3 bushels.
Italian Rye Grass.....	7	3 bushels.	Vetch, Sand, Winter or Hairy.....	26	1 bushel.
Japan Clover.....	12	14 lbs.	Spring (Tares).....	32	2 bushels.
Jerusalem Corn.....	24	5 lbs.	Vicia sativa.....	32	2 bushels.
Johnson Grass.....	10	1 bushel.	Vicia villosa.....	26	1 bushel.
June Clover—See Red Clover.....	11	12 to 14 lbs.	Vigna catjang—See Cow Peas.....	28	2 bushels.
" Grass—See Kentucky Blue.....	8	3 bushels.			
Kafir Corn.....	24	8 to 10 lbs.	Wheat.....	22	1 1/2 bushels.
Kentucky Blue Grass.....	8	3 bushels.	White or Dutch Clover.....	12	8 lbs.
			Wild Rice.....	32	
			Wood Meadow Grass.....	7	2 bushels.
			Zizania aquatica—See Wild Rice.....	32	

PURCHASER PAYS TRANSPORTATION ON FARM SEEDS. IF SMALL QUANTITIES ARE WANTED BY MAIL SEE ZONE RATES ON PAGE 2 OF COVER AND ADD TO ORDER.

12.30

1a.

HENDERSON'S EUREKA YELLOW DENT CORN

WOOD'S EARLY NORTHERN WHITE DENT CORN

EXTRA EARLY YELLOW FLINT CORN

*LONGS CHAMPION
YELLOW DENT CORN*

